PERCEIVED ATTRACTIVENESS AND PERSONALITY ATTRIBUTES:

A GENDER AND RACIAL ANALYSIS

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Subjects rated 12 female body shapes with respect to their physical attractiveness, and the extent to which they would be expected to possess various personality characteristics. The shapes were varied using 3 levels of overall weight and 4 levels of body shapeliness. The sample was modified to control for socioeconomic factors and results are based on 297 undergraduates from Caucasian, African American, and Hispanic racial backgrounds.

Loglinear analyses revealed that men and women, regardless of racial background, rated shapely underweight females as most physically attractive, sexy, and ideal for a woman, followed by normal weight figures of similar proportion. African Americans, women in particular, judged the shapely normal weight figures more favorably than the other subjects. Multidimensional scaling and subsequent frequency analyses showed that those figures judged as most attractive, sexy, and ideal were also expected to be fairly emotionally stable, and most successful and interpersonally competitive, but least faithful, kind, and family-oriented. Overweight female shapes, while rated as least physically attractive, sexy, and emotionally stable, were expected to be most family-oriented, kind, and faithful. Shapely normal weight figures were judged to be attractive and sexy, and were assumed to possess a moderate amount of the personality traits in question.

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CHAPTER 1

INTRODUCTION

Overview

The prevalence and development of formal eating disorders, disturbed eating patterns, and problems in body image perception has received increased attention in the scientific literature over the last few decades. Research in this area has shown that college women evidence more eating problems and body dissatisfaction than women from general community populations (Cooper & Fairburn, 1983; Hart & Ollendick, 1985). The actual prevalence of formal eating disorders in college women has been estimated to range between 4% and 14% depending on the specific diagnostic criteria used (Nevo, 1985; Striegel-Moore, Silberstein, Frensch, & Rodin, 1989). More alarming, however, is the finding that 70% of college women evidence disturbed eating patterns and weight control strategies such as fasting and purging (Hesse-Biber, 1989). Thus, although only a fairly small percentage of college women evidence a formal eating disorder, many seem to show weight dissatisfaction and body image concerns.

Cultural background has often been implicated in the development of eating problems and formal eating disorders (Beren & Chrisler, 1990; Hesse-Biber, 1989). In fact, formal eating disorders, body image concerns, and disturbed eating patterns have historically been found in Caucasian females, with minority women seldom afflicted.

Prevalence estimates for African American women living in the United States have been found to be about 3% (Gray, Ford, & Kelly, 1987; Nevo, 1985). Other minorities, such as Hispanics, have not been thoroughly studied and prevalence estimates for these populations are unknown. One study which examined a group of females from Hispanic and Native American backgrounds found a prevalence rate of 11% for DSM-III bulimia (Snow & Harris, 1989). Other researchers have estimated the prevalence of disturbed eating patterns to be similar to those found in White females (Smith & Krejci, 1991), but these estimates are based on very limited research. Prevalence differences between Caucasian and African American females can be assumed to be more reliable since these groups have been studied more extensively, and such differences suggest a racial component involved in the development of eating disturbances.

Although several researchers have noted racial differences and cultural pressures in the development of eating disorders, studies examining such factors are quite limited. Of those published articles, it has been found that cultural standards of attractiveness tend to change with time, and women's magazine articles appear to react to such trends. From 1959 to 1988, the weight of Western models and beauty pageant winners generally decreased, and the body shapes of such women became more tubular. Similarly, the number of dieting and exercise articles in women's fashion magazines increased during this time period as the average female weight increased (Garner, Garfinkel, Schwartz, & Thompson, 1980; Morris, Cooper, & Cooper, 1989; Wiseman, Gray, Mosimann, & Ahrens, 1992). Such changes in attractiveness standards and dieting and exercise regimens suggest a cultural or societal "ideal" in judgments of physical attractiveness.

Within the last decade research has begun to focus on subjects' perceptions of physical attractiveness, specifically with regard to body shape and weight. In general, findings have shown that men prefer women with a slender figure, yet women often overestimate the amount of thinness that men desire (Fallon & Rozin, 1985). Men and women have both been found to show dissatisfaction with their weight, but women tend to be more self-critical and likely to alter their eating habits based on their amount of body dissatisfaction (Fallon & Rozin, 1985; Rozin & Fallon, 1988). Likewise, it has been found that both sexes tend to rate normal and underweight female figures with a curvaceous fat distribution to be most physically attractive and sexually appealing (Singh, 1993; Singh, 1994a; Singh, 1994c; Henss, 1995). A large portion of research has shown that socially desirable traits, such as sexiness, emotional stability, and family-orientedness, are often ascribed to physically attractive figures (Dion, 1972; Singh, 1994a; Singh, 1994c; Henss, 1995). Very few studies have examined racial or cultural differences in these areas. One recent study, however, found several racial differences between White and African American adolescent females in the amount of importance placed on physical attractiveness and the factors that comprise attractiveness (Parker, Nichter, Nichter, Vuckovic, Sims, & Ritenbaugh, 1995). Aside from this study, little is known about the role of race in ratings of attractiveness and personality attributes ascribed to figures of different attractiveness levels. It seems plausible that racial differences in these areas may play a significant role in the eating disorder prevalence variations which exist between women of different racial backgrounds.

The present study was developed to explore areas where the eating disorder literature has proved less than adequate. It was assumed that an underlying component of the development of formal eating disorders and eating disturbances involves one's perception of what is physically attractive in a female body. For females especially, this perception and the importance one places on body image could be heavily governed by how one perceives one's own body shape, as well as the assumptions a person makes about what other males and females find attractive in a woman. The level of importance placed on achieving a certain figure could also be related to the types of personality attributes one ascribes to certain body shapes. Clearly, racial background and gender effects are likely to affect a person's judgments and perceptions in these areas. Unfortunately, little research has addressed these factors, and a racially sensitive exploration of physical attractiveness perceptions seemed imperative in our scientific understanding of the development of eating disorders, body image disturbances, and disturbed eating patterns. The scope of the study was to examine gender and racial differences in relation to perceptions of physical attractiveness and the personality attributes that are ascribed to various female figures. The study concentrated on a college population because eating disturbances are often found in college women and the college population tends to be fairly homogeneous with regard to age and socioeconomic status.

Prevalence of eating disorders and disturbances in college females

Over the last two decades, a large portion of the eating disorder literature has targeted college women, a population which appears to be at high risk for developing

formal eating disorders or variations thereof (Halmi, Falk, & Schwartz, 1981). Prior to the advent of the Diagnostic and Statistical Manual of Mental Disorders, Third Edition's (DSM-III, American Psychiatric Association, 1980) criteria for bulimia, systematic investigation of bulimic behaviors proved difficult due to a lack of an accepted diagnostic criteria. In fact, prevalence estimates of eating disorders and disordered eating behavior among college students remain quite varied depending on the diagnostic criteria used. Although the mere presence of binge eating was initially estimated to be quite high, with some prevalence estimates of 68% for college women (Halmi, Falk, & Schwartz, 1981), preliminary prevalence estimates of DSM-III bulimia were found to range from 2.7% to 5% for college women (Hart & Ollendick, 1985; Healey, Conroy, & Walsh, 1985) to 1% for working American women (Hart & Ollendick, 1985) and 2% for women from a southern English community (Cooper & Fairburn, 1983).

More recent estimates for college women has shown a rise in prevalence. Pyle, Neuman, Halvorson, and Mitchell (1991) found that 4.7% of college females met either the DSM-III criteria for bulimia or anorexia nervosa, or the Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised (DSM-III-R, American Psychiatric Association, 1987) bulimia nervosa diagnostic criteria. Similarly, in a study examining the behavioral and affective symptoms of disordered eating behaviors for a large sample of college students, Striegel-Moore, Silberstein, Frensch, and Rodin (1989) found that 3.8% of females met DSM III-R criteria for bulimia nervosa. In Hesse-Biber's (1989) study of college women, 12.4% of women met DSM-III bulimia criteria, representing a significant rise in suspected prevalence. Although such prevalence statistics are generally

low, it has been found that many college females who do not evidence an eating disorder often show other aspects of disordered eating attitudes and behaviors.

Hesse-Biber (1989) examined the eating patterns of college students in comparison to those of clinically defined cases of eating disorders. She observed that 70% of female students displayed binge eating, fasting, or the use of diuretics, diet pills, laxatives, or self-induced vomiting to lose weight. This finding suggests that many women displayed some disturbed eating patterns, yet did not fulfill diagnostic criteria for an eating disorder. In a similar study, Striegel-Moore, Silberstein, Frensch, and Rodin (1989) found that an increase in negative feelings about weight, among other variables, was associated with a worsening of disordered eating symptoms in college females during the freshman year. Likewise, Thompson, Berg, and Shatford (1987) found that college women who met DSM-III criteria for bulimia and those with bulimic-like symptoms who did not meet DSM-III criteria were similar in their degree of body dissatisfaction and the discrepancy between their actual and desired weight. Both groups scored significantly higher than a group of college women who were judged to be free of bulimic symptoms. Post and Crowther (1985) found similar trends in adolescent females. They observed that one's perception of their current weight (e.g. too heavy, too thin, ideal, etc.), the discrepancy between their current and ideal weight, the importance of obtaining this ideal weight, and other cognitive variables emerged as significant discriminators between bulimic and nonbulimic adolescents.

From the above studies, it seems that women need not show a formal eating disorder to feel self-conscious and dissatisfied with their weight. Rather, it appears that

for many college (Striegel-Moore et al., 1989; Hesse-Biber, 1989) and adolescent females (Post and Crowther, 1985), the perception of one's weight is a primary concern and a key element in the amount of disordered eating symptoms that one displays. In addition to cognitive and intrapsychic factors, cultural and societal pressures have often been implicated as a primary component in this process. Beren & Chrisler (1990) and Hesse-Biber (1989) note that the role of "culture" in eating disorders is often overlooked and underemphasized, yet may have a strong impact on the development of such behaviors. Similarly, some have suggested that in our present-day, Western society, men are judged by the quality of their minds while women are judged by the quality of their bodies (Freedman, 1986; Greenspan, 1983). Beren and Chrisler (1990) also note that women often believe that they must be attractive, and in today's society the ideal woman is thin. Berg (1988) appeared to find some empirical support for these hypotheses when she observed that college women living in coed floor dormitories were more apt to develop and display disordered eating habits than women living in single-sex dorms. She concluded that the cultural pressure to be attractive, and thus thin, may be more intense for women living in close proximity to male peers, and such women are more vulnerable to developing disordered eating behaviors.

Prevalence of eating disturbances and racial background

While much research on eating disorders has focused on college women and prevalence estimates for this population range from 4% to 13%, much less attention has been paid to subjects' racial or cultural background. However, these factors indeed appear

to play an important role in the prevalence and development of eating disturbances. Until the late 1980s, reports of eating disorders in nonwhite women were relatively rare. Kendall, Hall, Hailey, and Babigan (1973) found only one case of a nonwhite anorectic patient when they examined the frequency of anorexia nervosa cases through 1971 in northeast Scotland, southeast London, and Monroe County in New York state. Jones, Fox, Babigan, and Hutton (1980) replicated Kendall et al.'s work in Monroe County through 1976 and also found only one case of anorexia in an African American female. The case incidence for anorexia nervosa in nonwhite women was concluded to be approximately .42 per 100,000, although this figure is likely to be an underestimate since many cases may have gone unreported.

In the United States, Nevo (1985) conducted a survey of college women and found that 14% of Caucasians and 4% of African Americans met DSM-III criteria for bulimia. In another survey, Gray, Ford, and Kelly (1987) found that 3% of African American women met DSM-III criteria for bulimia. Several researchers (Hsu, 1987; Lawler & Rand, 1985; Silber, 1984; Robinson & Andersen, 1985; Andersen & Hay, 1985) discussed case histories of African Americans with eating disorders. Many met either DSM-III criteria for anorexia nervosa or bulimia, and most of the girls and women came from middle class backgrounds, showed some evidence of depression, and engaged in binge eating, self-induced vomiting, or laxative abuse.

Similar findings have been noted in the United Kingdom. Several researchers (Thomas & Szmukler, 1985; Holden & Robinson, 1988; Lacey & Dolan, 1988; Ford & Dolan, 1989) have discussed individual cases of anorexia and bulimia nervosa in women

of Afro-Caribbean, West Indian, African, Jamaican, and mixed race backgrounds. The cases varied in terms of socioeconomic and educational levels, with many patients coming from lower socioeconomic groups and broken homes.

Other studies have examined eating disorders among Hispanic populations. Pumariega (1986) found Hispanic adolescent females to be similar to Caucasian adolescents in their scores on the Eating Attitudes Test, a measure of anorectic attitudes. Snow and Harris (1989) also found a rather high rate of disturbed eating patterns and weight concerns in a mixed group of Hispanic and Native American adolescents, with 11% fulfilling DSM-III criteria for bulimia. Smith and Krejci (1991) examined the prevalence of disturbed eating patterns in Caucasian, Native American, and Hispanic adolescents living in the United States. Racial differences were observed for binge eating as broadly defined by one question (e.g., "I have gone on eating binges where I felt I could not stop"). Based on subjects' responses, 57% of Native Americans, 46% of Caucasians, and 42% of Hispanics engaged in binge eating with no sex differences emerging. When more stringent binge eating criteria were employed (e.g., binge eating more than once per month), racial and sex differences were still not evident but the prevalence dropped to only 13% for males and females. Although males and females were similar in their frequency of binge eating, sex differences emerged for the frequency of self-induced vomiting. Vomiting was reported by 9.4% of females and only 1.3% of males. Results showed that the rate of self-induced vomiting (e.g., once per month) varied across racial groups with 10% of Native Americans, 5% of Caucasians, and 4% of Hispanics engaging in monthly self-induced vomiting. Sex and racial differences were not

found for laxative abuse. In general, Smith and Krejci's results suggest that Hispanics and Native Americans are similar to Caucasians with regard to disturbed eating patterns.

The above case history and prevalence findings show that eating disorders are rare, but can occur in women of nonwhite backgrounds. Based on prevalence findings it appears that 4% to 14% of Caucasian women tend to display eating disorders, whereas only about 3% to 4% of African American women show such syndromes. Formal eating disorder prevalence estimates for Hispanic women are unclear, yet suggest that Hispanic adolescents are fairly similar to White adolescents with regard to disturbed eating behaviors. In the case histories noted above, it seems that eating disorders are not necessarily centered in a particular socioeconomic level, but rather transcend levels. Similarly, it appears that some of these nonwhite women evidenced similar behaviors (e.g., binge eating, self-induced vomiting) and complicating factors (e.g., depression, coming from a broken family) as their Caucasian counterparts. Although there appears to be some consistency between nonwhite and White cases, this conclusion must be made cautiously since much of the research on nonwhite women has been in case history rather than more empirical forms (e.g., survey, structured clinical interview). Regardless, the prevalence and case history data suggest that eating disorders are more common in Caucasian women than African American women. Although studies involving Hispanic women are limited, the current data suggests that Hispanic women are more similar to Caucasians in their frequency of disturbed eating problems.

Such findings appear to implicate racial background as a predisposing factor in the development of eating problems and raises questions as to why this may be the case.

When considering such findings however, it is important to keep in mind that the above conclusions are drawn from nonwhite women living in predominantly Western cultures (e.g., the United States and the United Kingdom), and societal pressures or acculturation level cannot be ruled out as a predisposing factor. Bulik (1987) has shown some evidence for acculturation pressures in the development of eating disorders in two cases of female Russian immigrants who showed eating disturbances (e.g., anorexia nervosa and bulimia) within two years of moving to the United States. Bulik concludes that when one tries to adapt to a new culture, one may have a tendency to over identify with aspects of that culture. In these two instances, the women appeared to overly identify with the American value of thinness. As Bulik suggests, acculturation and societal pressures may have a strong impact on the types of weight and body shape attitudes one holds and the weight control behaviors one employs. To adequately understand the development of these attitudes and behaviors, it seems necessary to briefly discuss society's role in determining what is viewed as attractive in females.

Recent trends in the perception of the "ideal female body shape"

The role of social norms in determining the "ideal female body shape" and perceptions of female attractiveness has been noted for several decades. Ford and Beach (1952) suggested that for many societies, plumpness in females is considered attractive. Rudofsky (1972) also suggested that in some cultures obesity has been viewed as a secondary sex characteristic. On the other hand, Calden, Lundy, and Schlafer (1959) found that Western females attribute more positive attitudes toward a smaller overall

body size which possesses a larger bust. Not surprisingly, they found that personal satisfaction decreased as one's body size deviated from the acceptable social standards of the times.

Such conclusions were preliminary, and emerging social trends and expectations for female body size were not systematically investigated until Garner, Garfinkel, Schwartz, and Thompson (1980) examined societal changes with regard to thinness. They observed changes in the body size and shape of Playboy magazine Playmate centerfolds and Miss America pageant contestants and winners from 1959 to 1979. They also examined the population weight changes and number of diet articles published in several popular women's magazines during this time period. An analysis of these sources revealed that for Playmate centerfolds, bust measurements decreased, waists became larger, and hips became smaller as height increased across the period. Such findings suggest a trend toward a more angular, less voluptuous body shape. For Miss America pageant contestants, contestants' weights gradually declined over the 20 year period. More noteworthy is the fact that from 1970 to 1979, the pageant winners weighed less than the average weight of the remainder of contestants. When weight population norms were examined, it was observed that for females of various heights under the age of 30, average weight increased from 1959 to 1979. Women over 30 years showed a decrease in average weight. Of particular significance is the fact that the number of diet articles in the women's magazines under study gradually increased over the 20 year time period. The mean number of articles from 1959 to 1968 was 17.1 articles per year, while the mean from 1969 to 1979 rose to 29.6 articles per year.

Wiseman, Gray, Mosimann, and Ahrens (1992) extended the findings of Garner et al. (1980) by one decade. Like Garner et al., they examined changes in Playboy magazine centerfolds, Miss America contestants, and the number of diet-for-weight loss, exercise, and diet/exercise articles found in a number of women's fashion magazines between 1959 to 1988. Results showed that a decrease in body size had continued from 1978 to 1988 in Miss America contestants. Body size had remained slender for Playboy centerfolds for the period. Miss America contestants showed a decrease in both their percent of expected body weight and hip size, resulting in a thinner, less curvaceous body size with regard to waist and hips. Of interest is the finding that 69% of Playboy centerfolds and 60% of Miss America contestants had weights of 15% or more below the expected weight for women in their age and height category. Such weight discrepancies fulfill the DSM-III-R's weight discrepancy criteria for diagnosing anorexia nervosa and suggests that as a society, Americans find women who are extremely thin to be attractive. In terms of the magazine articles in question, it was found that from 1959 to 1988, the number of diet, exercise, and diet/exercise articles increased over the time period. The number of exercise articles also surpassed the number of diet articles from 1978 to 1988, suggesting an emphasis on fitness for weight loss in conjunction with dieting, or perhaps in place of it.

Morris, Cooper, & Cooper (1989) found similar trends from 1967 to 1987 for data from a London modeling agency for women who modeled clothes for popular women's fashion magazines such as Vogue and Cosmopolitan. For a sampling of 8 years during the time period, models showed a significant increase in height and waist measurements. Bust and hip measurements did not change significantly during the time period. The

authors then analyzed the data using a formula which provides a ratio between waist measurement relative to bust and hips and serves as a measure of curvaceousness of one's body shape. During the time period studied, an increase in the ratio was observed which reflects a larger waist measurement relative to bust and hips, and thus a less curvaceous figure. This finding, like those of Garner et al. (1980) and Wiseman, Gray, Mosimann, and Ahrens (1992), suggests that the ideal female body shape has, during the time period studied, moved from being curvaceous to more tubular. Consistent with conclusions made by Wiseman et al., Morris et al. conclude that this trend may be related to the apparent increase in the prevalence of eating disorders observed in recent years (Cooper & Fairburn, 1983; Hart & Ollendick, 1985; Healey, Conroy, & Walsh, 1985; Hesse-Biber, 1989).

If the shape and weight of Playboy centerfolds, Miss America pageant contestants, and female clothing models, as well as the frequency of diet/exercise articles in women's fashion magazines are assumed to be a rough estimate of the general population's perceived "ideal female body shape" and view of attractiveness, then such results suggest that societal expectations for women change with time. From approximately 1959 to 1989, it seems that women, on the average, were increasing in weight while society's models for female attractiveness were weighing less and becoming more angular in body shape. Not surprisingly, female fashion magazines seemed to respond to this trend and the publication of diet related articles increased during the time period. In this way, it seems that a societal pressure has existed on Western women for the last 35 years which emphasizes the value of thinness, dieting, and exercise. It is likely that women living in

this time period, who have tended to increase in average weight, have responded to these societal pressures. Although research data has not been gathered for this period, it is hypothesized by the present author that many women probably began dieting more and "holding back" more often at meals over the last 35 years. Similarly, some women may have responded to such pressures by excessive weight control techniques, including those more typically associated with anorexia and bulimia (e.g., fasting, purging). Indeed, the increase in prevalence of eating disorders and disordered eating patterns in the last few decades seems to show support for these hypotheses (Cooper & Fairburn, 1983; Hart & Ollendick, 1985; Healey, Conroy, & Walsh, 1985; Hesse-Biber, 1989; Pyle et al., 1991; Striegel-Moore et al., 1989; Thompson et al., 1987).

Body shape and perceived attractiveness

As society's preference for female body shapes has changed, researchers have grown more comprehensive and thorough when investigating perceptions of physical attractiveness. In recent years, two lines of research have focused on the area of body shape and perceived attractiveness, those studies conducted by Fallon and Rozin, and those by Singh and Henss. Fallon and Rozin (1985) asked college males and females to rate nine male and female figure drawings which varied from very thin to very heavy. Subjects were to rate the figures on four dimensions: which figure best approximated their current figure, which figure they would like to look like, which figure they thought would be most attractive to the opposite sex, and which figure of the opposite sex they found most attractive. Results showed that women rated their current figure as being the

heaviest of the three ratings. The figure that females would most like to achieve was thinner than that which they thought men would find most attractive. Men rated the most attractive female figure as one which fell between the women's rating of their own current figure and that which they thought men would be most attracted to.

In summary, ratings as measured from thinnest to heaviest were as follows: the figure that women would most like to look like, followed by the figure women thought men would find most attractive, followed by the figure men actually rated as most attractive, followed by women's ratings of their current figure. It seems that women perceive their current figure to be heavier than their ideal figure or that which they believe men prefer. In this way, their distortion of men's preferences is more in line with what they would like to look like ideally. The authors note that men desire women who are thinner than what women currently perceive themselves to be, which suggests that women may have some realistic reasons for their weight dissatisfaction and pursuit of thinness. Of interest was the finding that women rated their ideal figure to be thinner than that which they thought men would desire, which suggests that other factors may also affect a woman's pursuit of thinness. Interestingly, men's ratings of their current figure, the one they would most like to look like, and the one they felt women would find most attractive were almost identical. Men actually believed that women were attracted to heavier figures than what the women actually endorsed. In this way, men distorted women's preferences in a way that is closer to their current figure, whereas women distorted men's preferences in a way that was more distant from their current figure.

Similar to their 1985 study, Rozin and Fallon (1988) examined how male and female college students and their parents viewed themselves in terms of attractiveness, what they would like to look like, what they thought the opposite sex would find most attractive, and what stimulus figure they found most attractive in the opposite sex. Results showed that both mothers and daughters thought their current body shape was heavier than what they would ideally like to look like, as well as what they thought men would find most attractive. Contrary to their 1985 study in which females wanted to be more thin than what they thought men preferred, Rozin and Fallon (1988) showed that females rated what they considered to be ideal very closely to what they thought men would consider to be ideal. Regardless, both daughters and mothers overestimated the amount of thinness that men preferred and were concerned about weight often or almost always. In addition, they "held back" at meals and felt more guilty about eating than their male counterparts. Of interest was the finding that even though fathers were typically dissatisfied with their current body shape, they did not show the same concern or eating practices that their wives did. In addition, both sons and fathers overestimated the amount of heaviness that they believed women would desire. Thus, even if they were dissatisfied with their weight, males overestimated women's preferences in such a way as to minimize their body dissatisfaction. Women, on the other hand, tended to make assumptions about male preferences that lead to greater weight and body dissatisfaction. It is likely that women's perceptual and attributional style with respect to weight and body shape dissatisfaction have a more negative, self-critical effect on women. Such negative effects do not seem to occur in men.

The results from Rozin and Fallon (1988) and Fallon and Rozin (1985) show the presence of sex differences (males vs. females), as opposed to generational differences (fathers vs. sons, mothers vs. daughters), which seem to mediate one's perception of their own shape and that which they feel the opposite sex finds most attractive. Such results also suggest that women put more pressure on themselves with regard to weight, and this increased self-pressure is likely to mediate the development of dieting and other weight control behaviors. Thus, the different perceptual styles of men and women appear to play an important role in one's level of body dissatisfaction and perceived attractiveness, and also seems to govern the types of ameliorative actions which are taken to control weight.

Like Rozin and Fallon (1988), Singh has also examined perceived attractiveness. Singh (1994c) notes that many researchers, such as Fallon and Rozin (1985), have only examined the relationship of weight and have failed to take into account body shape when studying perceptions of attractiveness. He emphasizes that body shape and attractiveness are influenced by the amount of fat that a person possesses, as well as its distribution. To study body fat distribution or body shape, Singh utilized the waist-to-hip ratio (WHR). The WHR is obtained by measuring the circumference of the waist and hips and computing a ratio. It provides an index of the distribution of body fat between the upper and lower body. It also helps to operationalize the difference between male and female body shapes. Prior to puberty, both boys and girls have similar WHRs. However, at puberty girls begin to deposit more fat around the hips, which results in a lower WHR. A typical WHR for a healthy, adult, premenopausal female ranges between .67-.80. Boys, on the other hand, tend to have higher WHR because fat tends to be deposited in the

abdominal areas as they grow. Typical WHRs for a healthy adult male range from .85-.95. Singh notes that the WHR distribution for men and women is bimodal with little overlap. The WHR can be valuable in conducting research because it provides an operationalized way to investigate body fat distribution, and hence body shape, which has not been thoroughly explored in previous studies.

In a study of male college students, Singh (1994c) had Caucasian and Hispanic males rate the physical attractiveness and associated personality attributes for 12 drawings depicting female figures of various body weights and WHRs. For each figure, subjects were to rank the three highest and three lowest characteristics from the following descriptor variables: good health, youthful looking woman, attractive, sexy, desire for children, faithfulness, capability of having children, ambitious and career oriented, a good companion, intelligence, aggressiveness, kind and understanding, interesting to talk to, and having a good sense of humor. Results showed that, regardless of racial background, males expected normal weight women with WHRs of .7, .8, and .9 to be associated with a good sense of humor, a desire for children, interesting to talk to, a good companion, healthy, capable of having children, intelligent, attractive, and sexy. Underweight women with WHRs of .7 and .8 were seen as youthful. Overweight women with WHRs of .9 and 1.0 were assumed to possess high levels of kindness and faithfulness.

In a second study, rather than rate figures, Singh (1994c) had Caucasian and Hispanic males rate four photographs of a woman who was shown from her abdomen to her knees with her WHR varied experimentally to be .6, .7, .8, or .9. Subjects ranked the woman on physical attractiveness, youthfulness, good health, being a good companion,

capability of having children, faithfulness, kindness and understanding, intelligence, aggressiveness, and the need to lose weight. Results showed that the figure with the lowest WHR (.6) was ranked as most attractive, healthy, and least in need of weight loss. The figure with the highest WHR (.9) was seen as least healthy and attractive, but most intelligent, kind and understanding, faithful, and most in need of weight loss. Thus, although this figure was seen as unattractive, she was also assumed to possess other desirable characteristics. Singh concludes that body fat distribution does play a role in formulating inferences of personality attributes, much the same as facial information. He also notes that normal females may diet and exercise to obtain a "good figure," characterized by a certain body fat distribution.

Singh (1994b) examined whether restrained eaters would find a slender female figure with a high WHR to be less attractive and healthy than a heavier female figure with a low WHR. College females and males rated six different female stimulus figures which ranged from heavier (overall larger body size) figures with low WHRs to thin (overall smaller body size compared to heavy figures) shapes with higher WHRs along various dimensions. Results showed that both high and low restraint females overwhelmingly chose two heavier figures with the lowest WHRs as ideal female figures. The two thin figures with high WHRs garnered only 1 % of ideal figure choices. Even within this 1%, there was a preference for the figure with a lower WHR. Thus, both males and females ranked figures with low WHRs (more curvaceous) as more attractive and healthy than figures with high WHR. Regardless of the presence or absence of restrained eating, women responded to the figures similar to men, noting that those figures with low WHRs

were more attractive and healthy. It appears that the concept of an ideal body shape seems to be governed by body fat distribution, that is WHR, just as much if not more than by overall body size (e.g., thinness vs. fatness). Singh also notes that WHRs have remained constant from 1967-1987 and researchers, including Morris et al. (1989), have erroneously concluded that the ideal body shape has become more tubular during this period.

Henss (1995) conducted a replication of Singh's previous research. He had college students rate 12 male and female stimulus figures, evidencing different body weights and WHRs, on a variety of bipolar scales measuring attractiveness, personality, and mood dimensions. Factor analysis yielded six factors, (1) Attractiveness, (2) Family, Agreeableness, and Conscientiousness, (3) Extroversion and Positive Affect, (4) Ambition, Success, and Intellect, and (5) Emotional Stability, which were utilized as dependent variables. Henss observed that no rating differences occurred between male and female subjects. Results showed that the overweight figures were seen as least attractive but most emotionally stable and family-oriented, agreeable, and conscientious. The underweight figures were seen as most attractive but least emotionally stable and (for female figures only) as least family-oriented, agreeable, and conscientious. In terms of WHR, female figures were rated as most attractive if they had a lower WHR (.7-.9, as opposed to 1.0). Male figures were rated as more attractive if they had a higher WHR (.9-1.0, as opposed to .7-.8).

In general, Henss' study showed that underweight women were judged as being most attractive, followed by normal weight women, and lastly by overweight women.

The body weight manipulation produced more far reaching effects than the WHR manipulation in that it affected attractiveness, and perceptions of females' emotional stability, family-orientedness, agreeableness, and conscientiousness. WHR seemed to play a major role in attractiveness ratings, and within each female weight category the figure with the largest WHR was viewed as the most unattractive of the group. Underweight and normal weight figures were seen as most attractive. However, normal and overweight female figures were seen as more emotionally stable than underweight figures. Likewise, underweight female figures were viewed as least family-oriented, least agreeable, and least conscientious whereas normal and overweight female figures were seen as possessing more of these qualities. Interestingly, the overweight females, although viewed as least attractive, were seen as most "motherly" and were ranked highest on "likes children, would like to have many children, good mother, and motherliness." In this way, it appears that different standards exist for physical/sexual attractiveness and motherliness or the ability to be a caregiver.

Results from Henss (1995) lend support for Singh's (1994b; 1994c) suggestion that ratings of female attractiveness are determined by the amount of fat one has as well as its distribution. Although Singh criticizes researchers (Morris et al., 1989) for not taking into account the role of WHR in their conclusions, much of the research in this area seems to be fairly consistent. For American culture, it appears that slenderness is highly valued in females (Henss, 1995). It has been found that both males and females (Fallon and Rozin, 1985; Henss, 1995) consistently rank thinner females as more attractive. Singh (1993; 1994b; 1994c) and Henss (1995) have also observed that men and

women prefer a smaller WHR for female figures. Garner et al. (1980), Morris et al. (1989), and Wiseman et al. (1992) have also found evidence for general cultural trends favoring thinness. These findings have been corroborated by Fallon and Rozin (1985), who found that men tend to prefer women who are thinner than what women usually rate themselves as being. Such societal norms and pressures, in conjunction with the finding that women tend to overestimate the extent of thinness that men prefer (Fallon and Rozin, 1985), could play an important role in the extent of dieting and exercise behaviors that women employ (Hesse-Biber, 1989). Of importance is the fact that these findings and trends are based only on studies in the United States and the United Kingdom, both Western industrialized countries. Such findings are convincing, but have concentrated on college women as a whole and, for the most part, do not take into account minority status. It is likely that racial background may have a profound effect on the way that one perceives female figures and what one finds most attractive.

Racial dimensions of body shape and perceived attractiveness

Although eating disorders can and do occur in minority populations, it is intriguing as to why they are rare for some minorities. Hsu (1987) speculates that African Americans in North America and Western Europe are inoculated against eating disorders since they seem to be less preoccupied with weight, shape and dieting, and hold a better self-image than Caucasians. Research with African Americans seems to support this hypothesis. Parker, Nichter, Nichter, Vuckovic, Sims, and Ritenbaugh (1995) examined differences in body image and weight concerns between White and African American

adolescents. Results showed that the majority (85%) of normal weight African American females were satisfied with their weight. On the other hand, 71% of overweight African Americans were dissatisfied with their weight. For White adolescents however, 90% showed some dissatisfaction with their weight, even when they were of normal weight. No differences were found in dieting behaviors between the racial groups. Interviews with Caucasian adolescents revealed that obtaining the perfect, ideal weight was seen as a means to achieving a perfect life which included popularity with peers, happiness, romance, and fitting in more with others. Many Caucasian girls had an "ideal girl" in mind, who was about 5'7" tall, 100 to 110 pounds, had a naturally pretty model's face, and had long, flowing blonde hair. However, for many girls, this ideal person and ideal weight were often unattainable which led to a sense of personal dissatisfaction and a devaluing of themselves. Talking about weight concerns and body dissatisfaction was observed to be one way for Caucasian girls to feel affiliated with one another, and it seemed to create a sense of group similarity and bonding. Caucasian adolescents who were most similar to an "ideal body shape" were admired, but also envied and disliked. In this way, White adolescents were quite competitive with one another. In general, they had a desire to change their imperfections so that they conformed more with an externally based ideal appearance.

African American adolescent females, on the other hand, evidenced a different mentality than Caucasians. Unlike Whites, who discussed an ideal girl as being slender with long blonde hair and a "model's" face, African American girls described the ideal girl as being smart, friendly, easy to talk to, fun to be with, not conceited, having a good

sense of humor, and well-kept. African Americans described beauty as being a function of both beauty on the inside as well as on the outside, but without regards to a particular body size or shape. Consistent with this, many African Americans respected a woman who believes in herself, has a positive attitude, does not allow negative life events to bring her down, and is not too worried about her looks. In general, African Americans held more global, flexible attitudes toward beauty. They tended to create their own sense of style and presentation with the attributes they had, and they reported routinely getting compliments from other African American males and females for doing so. This tendency is contrary to that of Caucasian girls, who wished to alter their appearance to achieve an external ideal. Unlike Whites, 60% of African American girls admitted that they would compliment a peer who seemed to have a good sense of herself and was found to be attractive. Also unlike Whites, African Americans felt that beauty increased with age whereas Whites tended to equate beauty with youth. In general, Parker et al. (1995) concluded that African American girls attempted to "make what they had work for them", whereas Caucasian girls had a tendency to try to alter their attributes to conform to a static ideal of beauty.

Rucker and Cash (1992) had similar findings for college students. When compared to African Americans, Caucasian women reported more body dissatisfaction, more negative automatic body-image thoughts, more negative evaluations of their appearance, and more body-image avoidant behaviors to control or hide weight-related aspects of appearance. Caucasian women wished to achieve a thinner body size than African American women. In addition, when asked to rank their ideal and current weight

using stimulus figures, White women's ideal weight was thinner than their self-perceived current size. No such differences were found for African American women. When judging figures, Caucasian women rated the same figures as heavier than African American women. White females were also found to have a greater fear of fatness, a stronger drive to be thin, more dieting concerns, greater weight-fluctuation awareness, and higher weigh-in anxiety than African American women.

In general, Rucker and Cash's results are similar to those of Parker et al. (1995). African American women were less concerned with weight and held less critical body-image attitudes than Caucasian women. They evaluated their overall appearance more positively and showed more moderate assessments of weight than Whites. In this way, they seem to be more tolerant of weight variations, less fearful of becoming overweight, and less concerned with achieving an extremely thin body size in comparison to Whites. Such findings certainly suggest that African Americans' overall beliefs about body image and attractiveness seem to inoculate them against the development of eating disorders and extreme weight concerns, as Hsu (1987) hypothesizes.

Other researchers such as Thomas (1989) have found results which are somewhat inconsistent with those of Parker et al. (1995) and Rucker and Cash (1992). Thomas (1989) found evidence suggesting that African American women feel rather dissatisfied with their weight. She examined the overall level of body-image satisfaction and the influence of weight, self-esteem, and the perceptions of significant others on body-image satisfaction in adult African American women. Thomas found that 35% of the women were either very happy (11%) or somewhat happy (24%) with their bodies. The majority

(55%), however, were either somewhat unhappy (40%) or very unhappy (15%) with their bodies. Approximately 11% were neither happy nor unhappy. Results also showed that 60% of the women rated themselves as too fat, 35% felt just right, and 5% rated themselves as too thin. Women who rated themselves as just right or too thin were happier with their bodies than those who rated themselves as too fat. Women also rated their ideal weight as being below their current weight, and a negative correlation existed ($r = -.42$) between body weight and body-image satisfaction. Body weight and self-esteem were also negatively correlated ($r = -.36$). Higher self-esteem was also associated with more positive body image satisfaction ($r = .41$). Not surprisingly, body-image satisfaction was related to other people's perceptions of the subject's body. Moderate correlations existed between a subject's body satisfaction and their mother's perception of their (the subject's) body ($r = .58$), father's perception ($r = .39$), close female friends' perceptions ($r = .52$), close male friends' perceptions ($r = .56$), and how satisfied their boyfriend or spouse was with their weight ($r = .57$). Subjects who felt their body shape was just right held more positive perceptions of close female friends than subjects who felt too fat or too thin. Women who felt too thin or just right held more positive perceptions of close male friends than subjects who felt their body was too fat.

Thomas' (1989) results are more similar to that which we would expect from Caucasian women. It was observed that African American women's level of body-image satisfaction was moderately related to significant other's perceptions. Such findings seem to be stronger than what might be expected based on other researchers' (Parker et al., 1995; Rucker & Cash, 1992) results. However, Thomas (1989) notes that overall self-

esteem was only somewhat related (r = -.36) to body-image satisfaction. Thomas concludes that a stronger relationship between these variables may not have been found due to African American women's failure to totally identify and accept American society and Caucasian standards of beauty. Thus, African American women's overall esteem may be related to other factors which are more important than mere physical appearance. This conclusion is consistent with the results of Parker et al. (1995) and the hypotheses suggested by Hsu (1987).

Although African American women seem to place less pressure on themselves with regard to weight, they are also aware that African American men may place more emphasis on physical characteristics of attractiveness, such as shapeliness (Parker et al., 1995). Unlike Whites however, African American men are less likely to refuse to date an overweight woman, and often consider such women to be attractive (Harris, Walters, & Waschull, 1991). Based on these findings, Singh (1994a) chose to examine how African American men and women rate female figures of various weights and body fat distributions (WHR). Results showed that African American men and women tend to assign attractiveness ratings to figures based on one's WHR within different body weight categories (underweight, normal weight, overweight). Within each weight category, figures with higher WHRs were given lower attractiveness ratings. Neither males nor females attributed attractiveness, sexiness, companionship, or desirability for a long-term relationship to overweight figures, however overweight figures were seen as desirous and capable of having children and as being kind and understanding. Such findings are very similar to those observed for Caucasian men and women (Singh, 1993; 1994b; 1994c).

Similarly, African American males and females both attributed a normal weight figure with a small, but within normal limit WHR (.7), as being healthy, attractive, sexy, capable of having children, ambitious and career oriented, intelligent, aggressive, interesting to talk to, good humored, and capable of making a good companion. Such findings are also similar to those found in White college age men (Singh, 1993).

Such findings show a lack of disparity between the way Caucasians and African Americans rate females in terms of attractiveness. Rather, based on Singh's (1993; 1994a; 1994b; 1994c) results, the two groups seem to be very similar in their perceptions of ideal female body shapes and attractiveness. This casts doubt on earlier findings regarding African American men and women (Harris, Walters, & Waschull, 1991; Rucker and Cash, 1992; Thomas, 1989) and suggests that both men and women from Caucasian and African American racial backgrounds utilize one's overall weight and figure (body fat distribution) as a means for judging attractiveness. When interpreting Singh's findings however, it is important to keep in mind recommendations from Parker et al. (1995). In completing their study, Parker et al. (1995) noted that to detect racial differences it was important to use a culturally sensitive survey. They found that surveys designed for Caucasian populations masked differences between White and African American adolescents. Similarly, performance on such surveys by African American youth in predominantly Caucasian schools was a better measure of bicultural competency than a measure of how African Americans actually think about beauty and body image. When considering Singh's (1994a) study, it is noteworthy that the stimulus figures that were used could be construed as representing White models (e.g., long flowing hair), which

could have resulted in the lack of differences that were observed between Caucasians and African Americans. It is also possible that the descriptive adjectives that were used in the study may not have been adequate with regard to racial or cultural sensitivity, and may have resulted in a study which measured biculturality moreso than actual differences in body-image and perceived attractiveness.

As noted above, Caucasians and African Americans are the racial groups that have generally been utilized in comparisons of eating attitudes and perceived attractiveness studies. With the exception of Pumariega (1986), Snow and Harris (1989), Smith and Krejci (1991), and Singh (1994c), research dealing with Hispanic subjects is quite limited. Singh (1994c) compared White and Hispanic males in terms of perceived attractiveness and found no racial differences between males in their ratings of stimulus figures. No studies were found which examined how Hispanic females would rate the attractiveness of stimulus figures or how they would do so in relation to Caucasian or African American peers. Clearly, there is a need for more comprehensive research comparing differences in these areas.

Physical attractiveness and personality stereotypes

In addition to societal pressures and racial differences in weight attitudes, it is possible that the attributions one makes about people may also affect the type of body shape one desires and finds most attractive. These types of attractiveness, social, and personality stereotypes have probably been associated with different body types for centuries. Sheldon (1942) was one of the first to systematically investigate the types of

personality characteristics associated with various body types, specifically those characterized by endomorphy, mesomorphy, and ectomorphy. Other researchers (Brodsky, 1954; Kiker & Miller, 1967; Wells & Siegel, 1961) have contributed to work in this area over the last five decades. In general, research has shown that mesomorph individuals are perceived to be brave, smart, and happy whereas ectomorphs are perceived to be lonely, afraid, and sad among others. Endomorphs have typically been assumed to be jovial and friendly. Dibiase and Hjelle (1968) found that male undergraduates rated mesomorph figures to be more active, energetic, and dominant than ectomorph and endomorph figures. They also rated mesomorphs as more efficient than endomorphs. Subjects rated the endomorph and ectomorph figures to be more shy, withdrawn, and dependent than mesomorph figures. The mesomorph figure was the most desirable to subjects. In general, research in this area shows that certain body types, particularly mesomorphs, are seen as more socially and interpersonally desirable than other body shapes. Body types, such as those described above, can also be viewed as a rough measure of physical attractiveness. Over the last three decades, much research has focused on physical attractiveness and the personality stereotypes which are associated with attractive and unattractive individuals.

Dion, Berscheid, and Walster (1972) investigated physical attractiveness stereotypes with college males and females. Subjects were shown three stimulus figures of males and females of either low, average, or high attractiveness. They were then asked to rate the figures on several bipolar personality traits (e.g., dull vs. exciting). They also rated which figures would probably exhibit the most and least amounts of a particular

trait (e.g., physical attractiveness, friendliness), and which would be most and least likely to encounter a variety of different life experiences (e.g., marital happiness). Results showed that attractive figures were seen as more socially desirable than unattractive figures, as they were viewed as more competent spouses, more likely to have happier marriages, and more likely to secure prestigious jobs than unattractive and average attractiveness figures. Figures of high and average attractiveness were assumed to have a happier social and professional life than those figures who were unattractive; they were also assumed to be more happy. In addition, attractive figures were assumed to find a more acceptable marriage partner than the other two figures. Estimates of parental competence were not affected by the figures' attractiveness. Dion et al. concluded that the concept of "what is beautiful is good" was supported since, on most dimensions, attractive figures were rated higher than those who were unattractive or of average attractiveness. In this way, attractiveness was associated with a more socially desirable personality, a better marriage, and higher occupational status.

Since 1972, Dion et al.'s findings have found considerable support. Since their seminal study, physical attractiveness research has blossomed in many different directions. In a study similar to Dion et al. (1972), Dion and Dion (1987) found that adults aged 15 to 69 held stereotypes similar to college students. When asked to rate a stimulus figure on several personality dimensions, results showed that attractive individuals were seen as having more socially desirable personalities (e.g., kind, sincere, poised, etc.) than unattractive persons. Similarly, more positive life outcomes (e.g., will

lead an exciting life, will be popular with members of the opposite sex) were associated with attractive rather than unattractive stimulus figures.

Nielsen and Kernaleguen (1976) investigated the role of facial and clothing attractiveness on personality perceptions. They had undergraduate females rank female mesomorph stimulus figures which varied in their degree of facial and clothing attractiveness (low, medium, or high attractiveness) on several personality dimensions. Similar to Dion et al. (1972), a social desirability index was obtained from the personality dimensions. Nielsen and Kernaleguen also included items which were summed to obtain an index of social and professional happiness and a bourgeois orientation score. Results showed that for all clothed body categories, the high facial attractiveness figure was seen as most socially desirable, the medium facial attractiveness condition was rated as second most socially desirable, and the low facial attractiveness figure was rated as least socially desirable. For figures with clothing of either high or low attractiveness, as facial attractiveness increased so did the overall physical attractiveness rating of the figure. For the highly attractive clothed body, ratings of professional and social happiness increased with increases in facial attractiveness. In general, as the level of physical attractiveness of the whole head/body unit increased, the figure was assumed to be more socially desirable and expected to have greater social and professional happiness, a finding that is consistent with Dion et al.'s "what is beautiful is good" hypothesis.

More recently, Alicke, Smith, and Klotz (1986) conducted a study examining facial and body attractiveness. They had college students rank pictures of different combinations of faces and bodies which were judged to be either highly attractive,

moderately attractive, or low in attractiveness. Figures were rated on several dimensions using a Likert scale format. Physical attractiveness ratings increased with increases from low to moderate to high facial and body attractiveness. An interaction effect revealed that an unattractive body considerably lowered the attractiveness perceptions of a figure with a high or moderately attractive face. Similar to the results for physical attractiveness, results showed that ratings of intelligence and sociability increased systematically as figures' body and facial attractiveness increased from low to moderate to high levels. Ratings of figures' morality, however, were moderated only by their level of facial attractiveness and did not show the systematic increases in ratings that the other variables evidenced.

Other researchers have focused more on the social expectations that are held for individuals of varying attractiveness levels. Guise, Pollans, and Turkat (1982) had undergraduate males rate how assertive and socially skilled they expected a female of either low, neutral, or high attractiveness to be. Subjects were shown three pictures of the same female with her dress, makeup, hairstyle, and so forth altered to represent three levels of attractiveness. Results showed that the attractive figure was assumed to be more assertive and socially skilled than the neutral and unattractive figures. However, no difference in assertiveness ratings were assumed to occur between the neutral and unattractive figures. A moderate positive association ($r = .43$) was found between physical attractiveness and perceived social skill. Similar to other research in this area (Alicke et al., 1986; Dion et al., 1972; Nielsen & Kernaleguen, 1976), physically attractive individuals seem to have an advantage over less attractive individuals with

regard to how they are socially perceived by others. In this way, Guise et al. conclude that the unattractive person may be predisposed to have a disadvantage in his or her social interactions.

Feingold (1990) conducted a meta-analysis of five different types of studies which focused on physical attractiveness and romantic attraction. Included in the meta-analysis were studies which utilized mate selection questionnaires, examined the content of personal ads, correlated attractiveness with opposite-sex romantic and platonic popularity, examined physical attractiveness ratings in dyadic interactions, and those in which subjects indicated their degree of attraction toward opposite-sex strangers. Results from mate selection questionnaire and personal ad studies revealed that physical attractiveness was more important to men than women. Similarly, in personal ads one in every three male advertisers sought an attractive partner whereas one in seven females mentioned attractiveness as a criterion in their ad. Studies which correlated attractiveness with popularity were divided into those that focused on romantic popularity and platonic popularity. For men and women, results showed that physical attractiveness was positively correlated with both romantic and platonic popularity. The correlation between romantic popularity and physical attractiveness was found to be medium for men and medium to large for women. The correlation between physical attractiveness and platonic popularity was medium for all men but large for male college students, whereas the correlation was small across all female samples. In the dyadic interaction studies, subjects usually briefly met with a partner or went on a blind date with a partner. Each partner was either rated for attractiveness by an independent judge, or each individual rated the

physical attractiveness of the other. Lastly, subjects would rate how much they liked the other person. For both sexes, overall results showed that physical attractiveness was moderately correlated with how well liked the blind date was. However, when the two subjects rated each other's physical attractiveness in addition to providing a liking rating, physical attractiveness was strongly related to how well-liked the date was. In the studies examining attraction to strangers, results showed that for both sexes, increased physical attractiveness of an opposite-sexed stranger resulted in greater liking of the stranger. The effect of attractiveness was large when male subjects judged female targets. When female subjects rated male targets, the effect size was in the small to medium range.

Some researchers have examined the effect of physical attractiveness on attributions related to marriage, divorce, and extramarital affairs. Brigham (1980) studied the effect of the physical attractiveness of spouses, reason for divorce, and gender of the perceiver on how the perceiver attributed responsibility for the divorce, predictions of spouses' future behavior, what type of financial settlement should be granted, and the perceiver's overall "likeability" of the spouses. College males and females were asked to rate the spouses on the above dimensions after seeing pictures of the spouses and reading a scenario regarding their marriage and reason for divorce. Results for physical attractiveness showed that males rated the attractive female as being more attractive than female subjects did. Attractive wives were assumed to have greater opportunities for extramarital affairs and were assumed to have an easier time finding a new husband than unattractive wives. These trends were not found for attractive husbands. For both husbands and wives, those who were attractive were assumed to be more apt to remarry

than those who were unattractive. However, unattractive men were viewed as more likely to remarry than an unattractive woman. Male subjects assumed that a highly attractive wife was more prone than an unattractive wife to commit adultery in the future. In contrast, female subjects concluded that the highly attractive wife would be less adulterous in the future than an unattractive wife. This trend was not found for husbands. With regard to personality traits attributed to the spouses, attractive wives and husbands were seen as being more poised, interesting, sociable, independent, warm, exciting, and sexually warm than unattractive wives and husbands. However, attractive wives were seen as more vain than unattractive wives. Adulterous spouses, regardless of sex, were seen as less modest, strong, genuine, kind, sincere, and sensitive, but more interesting, sociable, exciting, and sexually warm than nonadulterous spouses or spouses who were in an incompatible marriage (without the presence of adultery). In this way, spouses who engaged in affairs were not viewed to be very kind or "nice," but were viewed as more interesting, sexual, and exciting.

In another study of undergraduate men and women, Hartnett and Secord (1983) found results similar to Brigham (1980). It was observed that when individuals have affairs, their physical attractiveness affects the way they are perceived, but also affects the way their spouse is perceived. Generally speaking, when a man or woman with an attractive spouse had an affair, the attractive spouse was assumed to be less interesting, sexually excitable, and sensual than an unattractive spouse. In this way, it appears that the attractive "victim" spouse was seen as possessing less positive personality characteristics than an unattractive "victim" spouse. It seems plausible that subjects concluded that the

adulterous spouse's reason for cheating was due to personality deficits in the spouse when the spouse was attractive. Conversely, such personality deficits were not assumed to be present in unattractive spouses, which may suggest that an adulterous spouse's reason for cheating on his or her unattractive spouse may simply be due to the "victim" spouse's lack of attractiveness.

The majority of the above physical attractiveness findings have been drawn from social psychology literature over the last three decades. More recently, studies have focused on the personality characteristics associated with various female body shapes. These studies are quite pertinent to the current study, and most have been described in depth in previous sections of this paper. Therefore, only a cursory review of perceived personality traits will be included here.

In studies which have examined personality attributions as a function of weight and WHR, it has been found that both males and females rate figures with low WHRs as more attractive and healthy than figures with high WHRs (Singh, 1993). These trends hold true for female subjects who evidenced restrained and unrestrained eating (Singh, 1994b). Likewise, Singh (1994c) found that Caucasian and Hispanic males rated normal weight figures with WHRs of .7, .8, and .9 to be associated with a good sense of humor, a desire for children, interesting to talk to, a good companion, healthy, capable of having children, intelligent, attractive and sexy. Underweight women with WHRs of .7 and .8 were seen as youthful. Overweight women with WHRs of .9 and 1.0 were assumed to be high in kindness and faithfulness. When ranking the same woman with a low WHR (.6), subjects rated the figure as attractive, healthy, and least in need of weight loss. However,

when given a high WHR (.9), males viewed the figure as unhealthy, unattractive, and most in need of weight loss, but intelligent, kind and understanding, and faithful. Thus, Singh's (1993; 1994b; 1994c) results show that men and women tend to find a figure with a lower WHR as more physically and sexually attractive, as well as more socially desirable. However, they do attribute some desirable characteristics to females with higher WHRs.

In a study similar to Singh's work (1993, 1994b; 1994c), Henss (1995) found that males and females viewed underweight female figures as most attractive but least emotionally stable, family-oriented, agreeable, and conscientious when compared to normal and overweight figures. Overweight figures, although rated as least attractive, were assumed to be most emotionally stable and family-oriented, agreeable, and conscientious. Overweight figures were also perceived to be more motherly and were assumed to like children and desire many children. This finding is consistent with Singh's (1993; 1994b; 1994c) in that some socially desirable traits were attributed to overweight women. In Henss' study, WHR manipulations only affected measures of physical attractiveness; ratings of personality traits were unaffected by WHR manipulations.

Although studies involving minorities are quite limited, they provide interesting data regarding differences in women's views of physical attractiveness. It has been speculated that African Americans hold a better self-image and are less concerned with weight and dieting than Caucasians (Hsu, 1987). Research seems to support this in that Parker et al. (1995) found that African American adolescents were more satisfied with their weight than Caucasians. In addition, White adolescents associated physical

attractiveness with achieving popularity and happiness. On the other hand, African American girls tended to view attractiveness as a global construct which is determined more by a person's personality and inner qualities rather than their looks. Similarly, whereas White adolescents seemed to be envious of other women who were physically attractive, African American women tended to be more supportive and encouraging of women that they found attractive. In this way, it appears that Caucasian girls are more interpersonally competitive than their African American counterparts. This assumption seems to be supported by Feingold (1990), who found that physical attractiveness is generally correlated with same-sex popularity for men but not for women. Similarly, matching for attractiveness among same-sex friends occurs more often for men than for women (Feingold, 1988). Feingold's (1988, 1990) data suggests that women tend to be more competitive than men, but the data do not reveal if this holds true for women of minority background.

Singh (1994a) provides some racial insights into the personality attributions associated with different weights and body shapes. African American men and women tend to rate figures with high WHRs, regardless of weight, as less attractive. Like White male and female subjects, although they perceived overweight figures as less attractive, sexy, and desirable as a companion or long-term mate, they did perceive overweight figures as being more desirous and capable of having children, as well as more kind and understanding than underweight figures. African Americans also perceived a normal weight figure with a small, but within normal limit WHR (.7), as being most healthy, attractive, sexy, capable of having children, ambitious and career oriented, intelligent,

aggressive, interesting to talk to, good humored, and capable of making a good companion. These findings are also similar to those found for Caucasian subjects. Unfortunately, no studies were found which examined the personality traits that Hispanic females attribute to figures of different attractiveness levels. Hence, it appears that more minority based research is necessary in these areas.

Rationale for the present study

Although a fairly small percentage of college women tend to display eating disorders (Pyle et al., 1991; Striegel-Moore et al., 1989), a much larger percentage show some degree of disturbed eating patterns and dissatisfaction with their weight and appearance (Hesse-Biber, 1989; Thompson et al., 1987). Furthermore, an increase in negative feelings about weight has been found to correlate with an increase in disordered eating symptoms in college women (Striegel-Moore et al., 1989). Historically, most studies of eating disorders have targeted Caucasian women. Reports of nonwhite eating disorder cases have been noted, but prevalence in African American populations and other nonwhite groups is estimated to be quite rare relative to Whites (Kendall et al., 1973; Jones et al., 1980; Nevo, 1985; Gray et al., 1987). Although few studies have targeted Hispanic women, those researchers who have included this population have found that Hispanic adolescent females are similar to Caucasians in the amount of disturbed eating attitudes and behaviors they display (Pumariega, 1986; Snow and Harris, 1989; Smith and Krejci, 1991). Although prevalence research is mixed with regards to

eating disorders and disturbed eating patterns in minority populations, it appears that weight concerns and eating problems are most often a Caucasian phenomenon.

In discussions of the etiology of eating disorders and problematic eating patterns, cultural and societal pressures have often been implicated (Beren & Chrisler, 1990; Hesse-Biber, 1989) but overlooked in the literature. It has also been noted that different sets of attractiveness standards seem to occur for men and women within American culture, whereby men are judged by the quality of their minds and women are judged by the attractiveness of their bodies and how slender they are (Freedman, 1986; Greenspan, 1983). Research with college students shows some support for these hypotheses (Berg, 1988). In addition, over the last 35 years it appears that the "ideal" female body shape has become more thin, tubular, and less curvaceous than what was once considered to be attractive (Morris et al., 1989; Garner et al., 1980; Wiseman et al., 1992). There has also been a greater emphasis placed on dieting, exercise, and weight management in popular women's fashion magazines (Garner et al., 1980; Morris et al., 1989) while the average weight for young women has increased over the last three decades (Garner et al., 1980). Such findings are suggestive of a cultural and/or societal influence on what people find to be physically appealing and how motivated women may be to achieve the "ideal" figure.

As noted above, eating disorders and related symptoms tend to prevail in Caucasian females and, although present, are fairly rare in minority populations. It has been postulated that some minorities, such as African Americans (Hsu, 1987), seem to be more inoculated against societal pressures than others. Indeed, it has been found (Parker et al., 1995) that normal weight African American females tend to be much more satisfied

with their weight than Caucasian females (Parker et al., 1995). Whereas White adolescent females strive to achieve a body figure and level of physical attractiveness comparable to models and others portrayed as being beautiful, African American females place less emphasis on such external criteria for beauty. Rather, they tend to place more emphasis on a person's personality characteristics, self-esteem, and self-confidence as a measure of attractiveness (Parker et al., 1995; Rucker & Cash, 1992). Research in this area, however, is not clear cut. In one study (Thomas, 1989) it was found that 55% of African American women were unhappy with their bodies and felt overweight. Contrary to Whites, however, it was observed that body image satisfaction was only moderately correlated with self-esteem. Such divergent attitudes between Caucasian and African American women suggest that African Americans could be less prone to develop disturbed eating patterns than their Caucasian counterparts, a phenomenon that is supported by prevalence research. Unfortunately, research focusing on the body shape and physical attractiveness attitudes of other minority groups, such as Hispanics, is quite limited.

Research suggests (Garner et al., 1980; Morris et al., 1989; Wiseman et al., 1992; Parker et al., 1995) that judgments of body shape and physical attractiveness do appear to be culturally influenced, and perhaps culturally bound. To assess people's perceptions of body shape attractiveness, some researchers (Fallon & Rozin, 1985; Rozin & Fallon, 1988; Singh, 1993; Singh, 1994a; Singh, 1994b; Singh, 1994c) have asked subjects to rate the level of attractiveness of women of different shapes and weight. Such research seems to be promising in that it relies on visual stimuli as opposed to self-report measures, and physical attractiveness appears to be a visual phenomenon. With regard to

body shape, it has been found that women tend to rate their current weight as being heavier than what they would consider to be ideal and heavier than what they believe men would find most attractive. In this way, they tend to be quite critical of their bodies and overestimate what they think men find attractive (Fallon & Rozin, 1985). Such trends were apparent across generations, and women were found to be much more disturbed by the difference between their actual and desired shape and weight than men (Rozin & Fallon, 1988).

Singh (1994c), utilizing a manipulation of apparent weight and waist-to-hip ratio, showed that Caucasian and Hispanic males rated normal weight women with small to medium WHRs to be most attractive and sexy. Unlike Singh (1994c), Henss (1995) observed that college men and women judged underweight figures to be most attractive followed by normal weight women. In general, other studies of college males and females (Singh, 1993; Singh, 1994a; Singh, 1994b; Henss, 1995) have found that both sexes rate a female figure with a small WHR to be most attractive. Overweight figures are usually rated as least attractive (Henss, 1995; Singh, 1993; Singh, 1994a; Singh, 1994b; Singh, 1994c). Unfortunately, research using stimulus figures of various sizes and shapes is limited with regard to minority populations. With the exception of Singh (1994c) which included Hispanic male subjects and Singh (1994a) which utilized African American subjects, research using minority subjects is limited. No studies thus far have examined Hispanic females' perceptions of attractiveness using stimulus figures. Furthermore, no studies thus far have included a racial comparison between Caucasians, African Americans, and Hispanics living in a predominantly White society. The present study

served to fill these research voids and extend research in the area of body shape and perceived physical attractiveness. It utilized both a weight and WHR manipulation as has been done previously, but transcended previous research by using subjects from different racial backgrounds. Female subjects were asked to choose which stimulus figure best approximated their 1) current figure, 2) the figure they would most like to look like, 3) the figure they believe is ideal for a female, 4) the figure they find most physically attractive, 5) the figure they believe men would find most attractive, and 6) the figure they believe other women would find most attractive. Male subjects were asked to choose 1) which figure they would rate as ideal, 2) which figure they find most attractive, and 3) which figure they think females would find most attractive.

In addition to perceived physical attractiveness, much research has targeted the personality traits that people often attribute to body shapes. This line of research originated in the field of social psychology and has recently been extended by Singh (1993; 1994a; 1994b; 1994c) and Henss (1995). In general, research has shown that more socially desirable personality characteristics are associated with people of high attractiveness. Attractive individuals are typically assumed to have a happier social and professional life, better marriages, more exciting lives, and more popularity with members of the opposite sex (Dion et al., 1972; Dion & Dion, 1987). Such trends have been found following manipulations of facial and clothing attractiveness (Nielsen & Kernaleguen, 1976), as well as facial and body attractiveness (Alicke et al., 1986). Attractive individuals have also been assumed to be more socially skilled and assertive (Guise et al., 1982). Feingold (1990) has noted that physical attractiveness is positively

correlated with romantic and platonic popularity, opposite-sex attraction, and general ratings of liking. Physical attractiveness of divorcing spouses seems to mediate the way that the spouses are perceived, although clear trends have not been discerned (Brigham, 1980; Hartnett & Secord, 1983).

From the social psychological research in this area, it is clear that one's physical attractiveness affects the way one is perceived by others. Within the last decade, Singh and Henss have extended this literature to determine the effects of weight and WHR manipulations on personality perceptions. Through their research, it has been observed that underweight figures with low WHRs are perceived as youthful (Singh, 1993; 1994a; 1994b; 1994c). Normal weight women with medium WHRs (.7-.9) have been perceived to be interesting to talk to, a good companion, possess a good sense of humor, have a desire and capability for having children, and be most healthy, intelligent, attractive, and sexy (Singh, 1994a; Singh, 1994b; Singh, 1994c). There is some discrepancy with regard to attractiveness ratings in that Henss (1995) found that underweight figures were perceived to be most attractive, but least emotionally stable, family-oriented, agreeable, and conscientious. In general, males and females tend to rate figures with low WHRs as attractive and healthy (Singh, 1993; 1994a; 1994b; 1994c). Overweight women with WHRs of .9 and 1.0, however, have been perceived as least attractive but kind and faithful (Singh, 1994c) as well as more emotionally stable, agreeable, conscientious, and family-oriented (Henss, 1995).

Research incorporating WHR and weight manipulations, although somewhat mixed in results, suggests that underweight and normal weight figures with lower WHRs

are viewed to be most attractive, healthy, and assumed to possess many socially desirable traits such as intelligence, a sense of humor, and the ability to make a good, interesting companion. It has also been found that, on occasion, thinner, more tubular figures are judged as youthful and least emotionally stable, suggesting a level of immaturity. Overweight figures, particularly those with high WHRs are typically judged to be least attractive. However, they are assumed to possess other valuable characteristics such as a commitment to family and a sense of kindness and faithfulness. Unfortunately, until now the majority of the research in this area has targeted only males and females, with limited emphasis placed on racial differences. With the exception of Singh (1994a; 1994c), minority subjects have been largely excluded. More research appeared to be necessary to help determine if racial background mediates perceptions of female attractiveness and the personality stereotypes associated with women of different shapes.

The current study served to extend research in this area in that, contrary to previous literature, it investigated racial as well as gender variations with regard to perceptions of female attractiveness and expected personality attributes. To assess the personality perceptions of stimulus figures, subjects were asked to rank the stimulus figures on several variables which have been utilized in previous research including physical attractiveness, sexiness, family-orientedness, faithfulness, emotional stability, and kindness similar to procedures used previously (Singh, 1993; 1994a; 1994b; 1994c; Henss, 1995). Subjects were also asked to rate the figures with respect to expected career success, as has been done previously by Dion et al. (1972). Included as a last dependent variable was an interpersonal competition variable. Research (Feingold, 1988; Feingold,

1990) has suggested that there are racial differences in the degree of competitiveness that exists between adolescent females (Parker et al., 1995), as well as gender differences in same-sex popularity (Feingold, 1990) and matching for attractiveness in same-sex friends (Feingold, 1988). These findings suggest that adolescent and adult females may be quite competitive with one another, but their level of competitiveness may differ as a function of racial background. To examine such differences, subjects were asked to rate figures in terms of their level of interpersonal competitiveness.

Null Hypotheses

The first null hypothesis focused on body shape and perceived physical attractiveness. It was hypothesized that no gender, racial, or stimulus figure differences would exist between Caucasian, African American, or Hispanic male and female subjects on: 1) the figure that females rated as most similar to their own (female subjects only), 2) the figure that subjects rated as ideal, 3) the figure subjects found most attractive, 4) the figure that females believed males would find most attractive, 5) the figure that males actually found most attractive, and 6) the figure that subjects believed other females would find most attractive. Data concerning the first null hypothesis was analyzed using log linear analysis. The null hypothesis was rejected. Significant stimulus figure main effects were observed for all the log linear models developed to explain the data. Furthermore, racial by figure interactions were found for several of the analyses and a gender by figure interaction effect was found for one of the models generated.

The second null hypothesis focused on personality attributes that subjects ascribe to the different body shapes. It was hypothesized that there would be no gender, racial, or stimulus figure differences or patterns observed between the figures that subjects ranked as most and least 1) physically attractive, 2) sexy, 3) family-oriented, 4) faithful, 5) emotionally stable, 6) kind, 7) successful, and 8) interpersonally competitive. Data regarding the second null hypothesis was analyzed using multidimensional scaling procedures and subsequent frequency analyses. The second null hypothesis was also rejected, as clear trends emerged with respect to the personality traits that were attributed to the different stimulus figures. In addition, mild racial differences were also found in the way subjects rated the figures. All data was analyzed using the SPSS for Windows statistical package.

CHAPTER 2

METHODS

Subjects

A total of 402 undergraduate students at the University of North Texas participated in the study. Of these, 18 (4.5%) submitted unusable protocols leaving 384 subjects. The sample was comprised of 154 (40.1%) males and 230 (59.9%) females. The sample was racially diverse, having 164 (42.7%) Caucasians, 119 (31.0%) African Americans/Blacks, 85 (22.1%) Hispanic/Hispanic Americans, 9 (2.3%) Asians/Asian Americans, 2 (.5%) Native Americans, and 5 (1.3%) subjects representing 'other' racial backgrounds. The 5 subjects from the 'other' racial category included 2 Black Hispanic females, 1 Ethiopian male, 1 Middle Eastern male, and 1 male from Guyana. The current study's aim was to compare college students from Caucasian, African American, and Hispanic backgrounds with regards to their preferences for, and the characteristics associated with various female body shapes. For this reason, all further descriptives will only focus on subjects from these 3 groups. Subjects from the Asian/Asian American, Native American, and 'other' cultural backgrounds will not be included in further analyses due to the relatively small numbers of subjects falling in these categories. For ease of reporting the results, African American/Black subjects will be referred to as African American, and all Hispanic/Hispanic American subjects will be referred to as Hispanic for the remainder of the study.

The remaining sample of 368 subjects was comprised of 77 (20.9%) Caucasian males, 87 (23.6%) Caucasian females, 34 (9.2%) African American males, 85 (23.1%) African American females, 37 (10.1%) Hispanic males, and 48 (13.0%) Hispanic females.

Age

All subject groups ranged in age from 18 to 25, except for African American males, who ranged from 18 to 24 years old. The subject groups did not differ with respect to age variance, however, a one-way ANOVA with Student-Newman-Keuls post hoc analysis revealed that the groups differed significantly in age ($F= 4.80$, $p < .001$). Caucasian females were significantly younger than Caucasian males, African American males, Hispanic males, and Hispanic females. African American females were found to be significantly younger than Hispanic males. The subject groups had mean ages and standard deviations (SD) as follows: Caucasian males mean age of 20.6 years (SD = 1.9 years), Caucasian females mean age of 19.8 years (SD = 1.5 years), African American males mean age of 20.9 years (SD = 1.8 years), African American females mean age of 20.1 years (SD = 1.9 years), Hispanic males mean age of 21.2 years (SD = 1.9 years), Hispanic females mean age of 20.6 years (SD = 2.1 years).

Marital status

The subject sample was homogeneous with respect to marital status, as 359 subjects (97.6%) were single, 8 subjects (2.2 %) were married, and 1 subject (0.3%) was divorced.

Living situation

A significant dependent relationship was found between the subject groups and their living situation ($X^2(25) = 44.1$, $p < .05$). As expected from a college sample, 212 subjects (57.6%) lived with their roommate. This trend was consistent across all subject groups as between 48.6% and 62.5% of subjects in each group lived with a roommate. Of the remaining subjects, 70 (19%) lived alone, 53 (14.4%) lived with their parents, 6 (1.6%) lived with their spouse, 19 (5.2%) lived with their significant other, and 8 subjects (2.2%) had 'other' living arrangements.

Religious affiliation

The sample was homogeneous with respect to religious affiliation, as 311 (84.5%) subjects were affiliated with some denomination of Christian religion, 89 (24.2%) of these being Catholic and the remaining 222 (75.8%) Protestant. Of those subjects who were Protestant, 127 (57%) were Baptist. The next most frequent religious denomination for the sample was 'other', as 36 subjects (9.8%) reported that they associated themselves with another, unspecified set of religious beliefs. The remainder of the subjects were grouped as follows: 9 subjects (2.4%) endorsed having no religion, 4 subjects (1.1%) were atheists, 3 subjects (.8%) were Jewish, 3 subjects (.8%) were agnostic, 1 subject (.3%) was Muslim, and 1 subject (.3%) was Buddhist.

Current weight

As expected, the subject groups differed significantly with respect to current weight ($F(5, 360) = 28.4$, $p < .001$) and weight variance (Levene Statistic $(5, 360) = 14.2$, $p < .001$). The mean weights and standard deviations (SD) in pounds for each group

were as follows: Caucasian males, 171.7 (28.4), Caucasian females, 131.7 (19.7), African American males, 192.1 (46.7), African American females, 163.5 (48.9), Hispanic males, 177.8 (35.0), and Hispanic females, 130.0 (21.2). A Student-Newman-Keuls post hoc analysis revealed that Caucasian and Hispanic females weighed less than all the other subject groups. African American males were also found to weigh significantly more than African American females and Caucasian males. No other significant differences were found.

How subjects rate their weight

Subjects were asked to comment on their own weight and rate whether they considered themselves underweight, overweight, or average/about right. The majority of subjects believed they were 'about right', as 201 subjects (54.6%) endorsed the item in this way. Thirty-seven subjects (10.1%) rated themselves as underweight, and 129 (35.1%) judged themselves as being overweight. A Chi Square analysis revealed that the subject groups differed significantly with respect to how they judged themselves ($X^2(10) = 49.4$, $p<.001$). Of interest was the finding that 57% of African American women rated themselves as overweight compared to 16% of Caucasian men, 37% of Caucasian women, 32% of African American men, 30% of Hispanic men, and 31% of Hispanic women. Twenty-seven percent (27%) of African American men rated themselves as underweight compared with 17% of Caucasian men, 2% of Caucasian women, 6% of African American women, 11% of Hispanic men, and 8% of Hispanic women. Only 37% of African American women and 41% of African American men judged themselves to be

average/about right, compared with 68% of Caucasian men, 61% of Caucasian women, and 60% of Hispanic men and women.

Concern about eating habits

A Chi Square analysis revealed that there was a dependent relationship between subjects and concerns about their eating habits (X^2 (5) = 17.0, $p < .01$), as 264 subjects (71.7%) reported being concerned about their eating habits at some point in time. In all subject groups except African American males, a minimum ratio of 2 subjects endorsed the item 'yes' for every 1 subject who responded 'no'. African American males endorsed the item equally with 17 subjects (50.0%) responding 'yes' and 17 responding 'no'.

Medical conditions affecting weight control

Only 19 subjects (5.2%) reported that they had medical conditions that affected their ability to control their weight. The conditions included hyperactivity, spinal cord injury (2 subjects), high metabolism, low metabolism, asthma (2 subjects), diabetes, hypothyroidism (3 subjects), hyperthyroidism (2 subjects), juvenile rheumatoid arthritis, an eating disorder, and Chron's disease. Three subjects did not list the particular medical condition they had.

Years enrolled in college

The subjects ranged in college enrollment from 0.5 to 9.0 years. A one-way ANOVA with Student-Newman-Keuls post hoc analysis revealed that Hispanic males were enrolled significantly longer than Caucasian females ($F (5, 362) = 3.3$, $p < .01$). No other group differences were observed, and the groups did not differ with respect to variance in years of college enrollment. The means and standard deviations (SD) for the

subjects' years of college enrollment are as follows: Caucasian males: 2.7 years (SD = 1.6 years), Caucasian females: 2.2 years (SD = 1.3 years), African American males: 2.9 years (SD = 1.4 years), African American females: 2.3 years (SD = 1.4 years), Hispanic males: 3.0 years (SD = 1.4 years), and Hispanic females: 2.6 years (SD = 1.5 years).

College major

The sample was diverse with respect to college major. For the sample of 368 subjects, 84 (23%) majored in psychology, 64 (17%) in business, advertising, or management related fields, 53 (14%) were undecided or enrolled in general studies, 28 (8%) majored in the natural sciences of biology, chemistry, or physics, 19 (5%) in education, 17 (5%) in communication and journalism fields, 17 (5%) in criminal justice, 16 (4%) in social work, rehabilitation, and other human service related work, 14 (4%) in medical and kinesiology related fields, 13 (4%) in English, 13 (4%) in other social sciences, 10 (3%) in art and design related fields, 8 (2%) in computer related studies, 5 (1%) were enrolled in other studies, 4 (1%) majored in music studies, and 3 (1%) majored in engineering.

Socioeconomic status

Of particular concern in the study was the role of socioeconomic status as a confounding factor on subject's attitudes toward female attractiveness. To obtain an estimate of each subject's socioeconomic background, subjects were asked to provide their current income and the income of their family of origin when they were growing up. Based on their responses to these questions, an attempt was made to control for group differences in socioeconomic status. The student sample was quite homogeneous with

respect to current income. As expected, the large majority of students had relatively small annual incomes. Specifically, 272 subjects (73.9 %) had current incomes of less than $10,000. An additional 73 subjects (19.8 %) had current incomes between $10,001 and $20,000. Only 23 subjects had incomes above $20,000, and their incomes were divided as follows: 17 subjects (4.6 %) earned between $20,001 to $30,000 per year, 3 subjects (.8%) earned between $30,001 to $40,000 annually, 1 subject (0.3%) earned between $40,001 to $50,000, 1 subject (0.3%) earned $50,001 to $60,000 per year, and 1 subject (0.3%) earned between $60,001 to $70,000 annually. As can be seen, 93.8 % of the sample earned less than $20,001 annually.

Family of origin income was also examined as a means of assessing subject's socioeconomic status. On the demographics questionnaire, subjects were asked to indicate whether their family of origin's income fell into 1 of 10 income categories, ranging from less than $10,000 to over $90,000, while they were growing up. Two subjects did not respond to this question. A Chi Square analysis between family income and subject group was highly significant ($X^2(45) = 74.1$, $\underline{p} < .01$). However, 46.7% of the cell sizes contained less than 5 subjects, thus the Chi Square value was likely to be distorted. To obtain a more accurate assessment of subjects' family incomes, the incomes were grouped into 4 categories: 1) less than $10,000 to $30,000, 2) $30,001 to $60,000, 3) $60,001 to $80,000, and 4) more than $80,000 per year. A Chi Square analysis yielded a significant relationship ($X^2(15) = 45.1$, $\underline{p} < .001$), and no cells had an expected frequency count of less than 5, which suggests that the Chi Square value was accurate. The Chi Square revealed that the subject groups were indeed different with respect to

family income. Specifically, 37% of Caucasian males and 32% of Caucasian females reported having an annual family income of more than $80,000, compared with only 15% of African American males, 9% of African American females, 22% of Hispanic males, and 13% of Hispanic females. Conversely, 38% of African American women and 27% of Hispanic men reported having an annual family income of less than $10,000 to $30,000, compared with 12% of Caucasian men, 15% of Caucasian women, 12% of African American men, and 23% of Hispanic women. The subject groups were more equal with respect to the frequency of subjects reporting family incomes in the other two categories.

Sample modifications

To maintain a fairly homogeneous sample and attempt to control for group differences in family of origin income, two sample modifications were made. First, only those subjects earning less than $20,001 annually were included in the remaining comparative group statistics. Thus, 23 subjects were excluded from the analysis on this basis. The 23 subjects included 5 Caucasian males, 4 Caucasian females, 2 African American males, 5 African American females, 2 Hispanic males, and 5 Hispanic females.

Second, subjects were systematically and randomly removed from the family of origin income categories until a Chi Square analysis proved insignificant. The removal process was systematic in that the researcher selected which subject group and income category subjects would be removed from, then subjects were randomly removed from those cells. The 2 subjects who did not provide a response to the question were removed first. Then, 12 Caucasian males and 12 Caucasian females with family incomes of more than $80,000 were removed. Three Caucasian males and 5 Caucasian females were also

removed from the $60,001 to $80,000 family income category. Two African American females with family incomes from $30,001 to $60,000 were removed, as were 12 African American females with family incomes of less than $10,000 to $30,000. Thus, a total of 71 subjects were removed from the sample of 368, leaving 297 subjects. A subsequent Chi Square analysis was performed and revealed that there were no apparent group differences in family of origin income ($X^2(15) = 12.5$, $p = .644$). All remaining comparative group statistics were based on the final sample of 297 subjects.

Final sample characteristics

The sample of 297 subjects was comprised of 56 (18.9%) Caucasian males, 66 (22.2%) Caucasian females, 31 (10.4%) African American males, 66 (22.2%) African American females, 35 (11.8%) Hispanic males, and 43 (14.5%) Hispanic females. As can be seen from the following descriptive sections, the refined sample closely approximated the sample of 368 subjects in most respects.

Age

The age range for the sample was identical to that of the previous sample of 368. Again, the subject groups did not differ with respect to age variance. However, a one-way ANOVA with Student-Newman-Keuls post hoc analysis revealed that the groups differed significantly in age ($F(5,291) = 5.00$, $p < .001$). Caucasian females were significantly younger than Caucasian males, African American males, and Hispanic males. African American females were also found to be significantly younger than Hispanic males. The subject groups had mean ages and standard deviations (SD) as follows: Caucasian males, 20.8 years (1.9 years), Caucasian females, 19.6 years (SD = 1.5 years), African American

males, 20.8 years (SD = 1.9 years), African American females, 20.1 years (SD = 2.0 years), Hispanic males, 21.2 years (SD = 2.0 years), and Hispanic females, 20.3 years (SD = 1.8 years).

Marital status

The subject sample was almost identical with respect to marital status, as 290 subjects (97.6%) were single, 6 subjects (2.0 %) were married, and 1 subject (0.3%) was divorced.

Living situation

In the refined sample of 297 subjects, 181 (60.9%) lived with their roommate. Fifty-five subjects (18.5%) lived alone, 41 (13.8%) lived with their parents, 4 (1.3%) lived with their spouse, 10 (3.4%) lived with their significant other, and 6 subjects (2.0%) had 'other' living arrangements. The sample of 297 subjects was thus, very similar to the original sample of 368 subjects.

Religious affiliation

Following the removal of subjects, the sample of 297 subjects closely resembled the beginning sample of 368 subjects with respect to religious affiliation. Again, the sample was largely Christian, as 253 subjects (85.2%) were affiliated with some denomination of Christian religion. Of these, 77 subjects (30.4%) were Catholic and the remaining 176 (69.6%) were Protestant. Of those subjects who were Protestant, 101 (39.9%) were Baptist. Thirty subjects (10.1%) endorsed having an 'other' affiliation, 6 subjects (2.0%) endorsed having no religion, 3 subjects (1.0%) were Jewish, 2 subjects (0.7%) were atheists, 2 subjects (0.7%) were agnostic, and 1 subject (.3%) was Muslim.

Current weight

The refined sample was similar to the original with respect to current weight, as groups differed significantly in weight ($F(5, 289) = 23.8$, $p < .001$) and weight variance (Levene Statistic $(5, 289) = 12.5$, $p < .001$). The mean weights and standard deviations (SD) in pounds for each group are as follows: Caucasian males, 172.8 (29.3), Caucasian females, 131.3 (18.9), African American males, 192.5 (48.4), African American females, 159.3 (50.0), Hispanic males, 178.1 (36.0), and Hispanic females, 128.4 (19.4). As before, a Student-Newman-Keuls post hoc analysis revealed that Caucasian and Hispanic females weighed less than all the other subject groups. African American females were found to weigh significantly less than the three male subject groups. Lastly, Caucasian males weighed significantly less than African American males.

How subjects rate their weight

The two samples were very similar with respect to how they judged their own weight. One hundred sixty-eight subjects (56.6%) believed they were 'about right', 27 (9.1%) rated themselves as underweight, and 102 (34.3%) judged themselves as being overweight. A Chi Square analysis revealed that the groups differed significantly ($X^2(10) = 34.5$, $p<.001$), and the trends were identical to those observed in the sample of 368 subjects. Fifty-five percent (55%) of African American women rated themselves as overweight compared to 16% of Caucasian men, 35% of Caucasian women, 36% of African American men, 31% of Hispanic men, and 28% of Hispanic women. Twenty-three percent (23%) of African American men rated themselves as underweight compared with 14% of Caucasian men, 2% of Caucasian women, 6% of African American women,

11% of Hispanic men, and 11% of Hispanic women. Thirty-nine percent (39%) of African American women and 42% of African American men judged themselves to be average/about right, compared with 70% of Caucasian men, 64% of Caucasian women, 57% of Hispanic men, and 65% of Hispanic women.

Concern about eating habits

A Chi Square analyses revealed an insignificant relationship, but apparent trend between subjects and concerns about their eating habits (X^2 (5) = 10.5, p = .06), as 214 subjects (72.1%) stated that they have been concerned about their eating habits at some point in time whereas only 83 subjects (27.9%) had not. These figures are very similar to the original sample of 368 subjects.

Medical conditions affecting weight control

Only 14 subjects (5.2%) reported that they had medical conditions that affected their ability to control their weight, while 282 (95.3%) had no such conditions.

Years enrolled in college

The subjects ranged in college enrollment from 0.5 to 7.0 years. A one-way ANOVA with Student-Newman-Keuls post hoc analysis revealed that Caucasian females had significantly less years of college than Caucasian males, African American males, and Hispanic males (F (5, 290) = 4.6, p < .001). No other group differences were observed, and the groups did not differ with respect to variance in years of college enrollment. The means and standard deviations (SD) for the subjects' years of college enrollment are as follows: Caucasian males: 2.7 years (SD = 1.4 years), Caucasian females: 1.9 years (SD = 1.2 years), African American males: 2.9 years (SD = 1.4 years),

African American females: 2.3 years (SD = 1.4 years), Hispanic males: 3.1 years (SD = 1.4 years), and Hispanic females: 2.5 years (SD = 1.4 years).

College major

For the refined sample of 297 subjects, 61 participants (21%) majored in psychology, 56 (19%) in business related fields, 44 (15%) were undecided, 22 (7%) in the natural sciences, 15 (5%) in education, 14 (5%) in social work or rehabilitation, 14 (5%) in criminal justice, 14 (5%) in communication or journalism, 13 (4%) in medical or kinesiology fields, 11 (4%) in art related fields, 10 (3%) in other social sciences, 9 (3%) in English, 6 (2%) in computer related fields, 3 (1%) in engineering, 3 (1%) in other fields, and 2 (.7%) in music. As can be seen, the diversity of college majors was quite well preserved following the removal of subjects to make the groups more similar with respect to socioeconomic background.

Stimulus materials

The stimulus figures used were 12 line drawings of female figures that have been used previously by Singh (1993; 1994a; 1994c), and Henss (1995). The 12 stimulus figures varied systematically along two dimensions: apparent body weight (overall size of the figure) and waist-to-hip ratio (WHR), which represents a variation of body shape/fat distribution. All figures were drawn to represent a 5' 5" tall female. The apparent weight dimension involved three levels: underweight (90 lb.), normal weight (120 lb.), and overweight (150 lb.). The WHR manipulation involved four levels: .7, .8, .9, and 1.0. The WHR is a measure of a figure's shapeliness, with a WHR of .7 representing significant waist and hip curvature, a WHR of .8 showing a moderate amount of curvature, a WHR

of .9 representing a minimal amount of waist and hip definition, and a WHR of 1.0 representing no waist and hip curvature. Within each weight category there were 4 levels of WHR. For ease of reporting the data, the 12 figure shapes will be referred to using the following abbreviations shown in parentheses: underweight figure with WHR of .7 (u7), underweight figure with WHR of .8 (u8), underweight figure with WHR of .9 (u9), underweight figure with WHR of 1.0 (u10), normal weight figure with WHR of .7 (n7), normal weight figure with WHR of .8 (n8), normal weight figure with WHR of .9 (n9), normal weight figure with WHR of 1.0 (n10), overweight figure with WHR of .7 (o7), overweight figure with WHR of .8 (o8), overweight figure with WHR of .9 (o9), and overweight figure with WHR of 1.0 (o10).

Henss (1995) had male and female subjects rate the 12 stimulus figures in terms of age, body height, and body weight. Subjects estimated "underweight" figures to have the lowest weight, and "overweight" figures to have the highest weight. Similarly, Singh (1994c) found that 95% of undergraduate males aged 18-22 who were asked to rate the figures with regard to weight sorted all 12 figures into the same weight categories that were pre-selected by the experimenter (underweight, normal weight, overweight). Such findings provide validity estimates for the figures and illustrate that subjects tend to perceive the stimulus figures in the same fashion as experimenters.

In the present study, the stimulus figures were manipulated so as to be more vague with regard to race. After initially investigating the figures used by Singh (1993; 1994a; 1994c) and Henss (1995), the current researcher felt that the figures' hair, and to a lesser extent the face, represented that of a Caucasian female. Parker et al. (1995) found

that survey measures on body image and weight control designed for White populations have a tendency to mask differences that exist between Caucasian and African American girls. They also found that African American girls attending predominantly Caucasian schools responded to such measures in a way that gave a better representation of their bicultural competency rather than their true thoughts about body image and attractiveness. Only when Parker et al. used a culturally sensitive measure were they able to delineate attitudinal differences between Caucasian and African American girls.

For this reason, the current study made an attempt to keep stimuli demand characteristics to a minimum by presenting subjects with a faceless, bald figure. By deliberately making the stimulus figures as vague as possible with regard to race, facial features, and hairstyle, it was hoped that most subjects would concentrate solely on the weight and body features of the stimulus figures when rating them. In addition, by keeping the figures vague, it enabled subjects to project their own preconceived ideas about weight, possibly resulting in a more racially sensitive and accurate assessment.

All figures were randomized and assigned identifying numbers. They were all placed on the same 8 1/2 x 11 inch sheet of paper to allow subjects to easily compare them. Three separate, randomly arranged stimulus sheets were used to help control for position effects. A Chi Square analysis between the 3 arrangements proved insignificant ($X^2(10) = 9.6$ $\underline{p} = .476$), as 130 subjects (35.3%) received stimulus set A, 114 (31.0%) received set B, and 124 (33.7%) received set C.

Questionnaires

Subjects were given a questionnaire packet which included an Informed Consent Form (Appendix A), a demographics questionnaire (Appendix B), a stimulus figure sheet (Appendix C), and a Perceived Attractiveness Questionnaire (Appendix D) measuring several facets of perceived attractiveness, ideal body shape, and personality characteristics that subjects were asked to estimate for the stimulus figures. The first page of the packet was the Informed Consent Form. It included a brief written description of the study, noting that the experiment was measuring college students' perceptions of physical attractiveness. It also identified the researcher, provided an estimate of the time needed to complete the study, and explained that each subject's participation was voluntary and that their responses were kept confidential. In addition, it informed subjects of their right to withdraw from the study at any time without penalty.

The second page of the packet was a demographics questionnaire which assessed subject's age, racial background, number of years enrolled in college, religious background, and income range. Subjects were also asked to provide their current height, weight, and family income range. In addition to the above information, subjects were asked to provide an appraisal of their current weight (e.g., underweight, overweight, about right) and to indicate whether they have ever been concerned with their eating habits. This information was gathered in an attempt to obtain a comprehensive description of the subjects participating in the study.

The third page of the packet contained an 8 1/2 x 11 inch sheet of paper with the 12 randomly arranged and numerically labeled stimulus figures. All subjects were able to

visually compare the 12 figures and were able to refer to the stimulus page when making perceptual judgments.

The last page of the packet was the Perceived Attractiveness Questionnaire, which focused on subjects' perceptions of physical attractiveness and the personality attributes they were asked to associate with the different figures. All subjects were asked to rate the figures on several dimensions including: 1) which figure they think is ideal for a female, 2) which figure they find most attractive, and 3) which figure they think women would find most attractive. Female subjects were also asked to rate 3) which stimulus figure they think best approximates their current figure, 2) which figure they think men would find most attractive, and 3) which figure they would most like to look like. To assess personality characteristics attributed to the figures, subjects were then asked to ordinally rank the 12 figures with respect to which figures, from most to least, they expected to possess the following characteristics: 1) physical attractiveness, 2) sexiness, 3) family-orientedness, 4) faithfulness, 5) emotional stability, 6) kindness, 7) career successfulness, and 8) interpersonal competitiveness.

To provide a validity check for the stimulus figures, all subjects were asked to sort the 12 figures into underweight, average weight/about right, or overweight categories.

Procedure

Subjects were recruited for the study in one of two ways. In the first, the researcher approached subjects in their respective classes or social organizations/clubs, briefly informed them of the nature of the research project, and gave them the option to

participate if they chose to. Second, the researcher advertised the study on a poster, included a brief description of the nature of the study, and subjects were able to sign up for a time to volunteer if they chose to. Whenever possible, subjects were assembled into large groups for participation. However, to meet volunteer's schedules, smaller groups were also assembled so that volunteers with limited time could participate. When permitted by their instructors, subjects were given two extra credit points for their participation. This was common practice for subjects who were from undergraduate psychology classes.

All subjects, regardless of how they were approached or volunteered for the study, were verbally informed that the study was an investigation of gender differences in the perceived attractiveness of women. They were given verbal instructions on how to complete the necessary questions and ratings. Subjects were also verbally informed that their participation was voluntary and that they could withdraw from the study at any time without penalty. Following these verbal instructions, subjects were instructed to read through and sign the Informed Consent Form if they wished to participate. After signing the Informed Consent Form, subjects were instructed to complete the remainder of the research packet. Upon completion of the questionnaires, subjects were instructed to bring the Informed Consent Form and questionnaires to the researcher. The Informed Consent Form was detached from the remainder of the packet. At that time, the researcher was available to answer any questions concerning the nature of the study. Subjects were then given a signed extra credit card (when applicable), thanked for their participation, and

dismissed. Subject recruitment continued until an adequate number of subjects were included in each of the subject groups.

Statistical Analyses

The study involved three discrete, categorical independent variables, including two levels of subjects' gender (male and female), three levels of cultural background (Caucasian, African American, and Hispanic), and 12 levels of stimulus figure (figures u7, u8, u9, u10, n7, n8, n9, n10, o7, o8, o9, and o10). The dependent variable was the observed frequency counts.

The study was divided into three parts. The first part focused on subjects' ratings of physical attractiveness for the stimulus figures. In this portion of the experiment, frequency data was obtained from each subject as they chose only one figure to answer the statement in question (e.g., "Which figure do you think is ideal for a female?"). A log linear analysis (Stevens, 1992) and subsequent frequency analysis was used for each question to extract the most valuable information from the data. Because the current study used three categorical variables, a simple Chi Square cross tabulation could not generate adequate conclusions from the data. As Stevens (1992) noted, a Chi Square analysis can only account for frequency data for two categorical variables at a time, and when multiple Chi Squares are used, a researcher cannot detect three factor or higher order interactions. For the present study, it was assumed that such interactions would be found (e.g., the choice of the ideal figure is related to the subject's gender, racial background, and the stimulus figure's weight/WHR). The log linear analysis was chosen to enable the researcher to detect higher order interactions between variables, and it is

typically viewed as more statistically sound than the use of numerous two way Chi Square analyses.

Stevens (1992) draws an excellent parallel between log linear analysis and the more widely known analysis of variance (ANOVA) and multiple regression procedures. ANOVA and multiple regression utilize a linear, additive model (e.g., U*ij* = U + A*i* + B*j* + AB*ij*) in which main effects (e.g., A*i* and B*j*) and interactions (e.g., AB*ij*) are tested to determine significant independent variable contributions on a dependent variable. Frequency data as obtained in a multiway (many variable) contingency table, as was used in the present study, is multiplicative in nature. The assumption behind the Chi Square analysis is that the two categorical variables are independent, and hence, frequency data in the cells should be disbursed in such a way that it reflects independence (e.g., having all frequency counts in one cell would not reflect independence). Independence implies that the probability of a data point (frequency count or tally mark) being in the *i*th row and the *j*th column is simply the product of the probability of being in the *i*th row multiplied by the probability of being in the *j*th column. This is the basic formula that one uses to obtain expected cell frequencies for a Chi Square contingency table. As noted, it is a multiplicative model (e.g., p*ij* = p*i* x p*j*), whereas ANOVA and multiple regression procedures utilize linear, additive models. In log linear analysis, logarithms are used to transform the multiplicative model into a linear model which looks like and is interpreted much like the familiar ANOVA and multiple regression models. Thus, the equation p*ij* = p*i* x p*j* is transformed using logarithms to become ln (p*ij*) = ln (p*i*) + ln (p*j*), hence the name log linear analysis. By using log linear analysis in the present study, it was assumed

that the most meaningful variable relationships would be extracted from the data in the most statistically sound manner.

For the second portion of the study, subjects rated the figures along various physical and personality dimensions including physical attractiveness, sexiness, family-orientedness, faithfulness, emotional stability, kindness, career successfulness, and interpersonal competitiveness. For this analysis, the ratings of the eight attributes for the 12 stimulus figures functioned as the dependent variable. Since subjects rank ordered the figures for each personality trait, data was ordinal in nature. As has been done in previous literature (Singh, 1993; 1994a; 1994c) and as Bieber (1988) recommends, multidimensional scaling was used to examine the relationships between the 12 stimulus figures and eight attributes. Following the scaling procedure, a frequency analysis was conducted to further illuminate the variable relationships. Multidimensional scaling (Kruskal & Wish, 1978) is a statistical technique that allows one to determine the similarity or difference between objects or constructs. It relies on the use of proximities, or numbers which are given to determine how similar or different the objects or constructs are. The proximities are used to arrange the objects into a spatial representation, and the location of and distance between points on the spatial map provide information as to how similar or dissimilar the constructs are perceived to be. In the current study, the 12 stimulus figures were represented by data points and scaled into a solution space or "map" for each of the 8 personality attributes. Multidimensional scaling is useful because it often helps illuminate aspects of the underlying structure of the data in a graphical, visual way. The graphical representation showed how the 12 figures were

perceived with respect to the personality attribute in question. Separate scaling analyses were performed for the total sample and 6 subject groups for each variable. Only those subjects providing usable rank ordered data were included in the scaling procedure.

The last portion of the study involved a validity check of the stimulus figures' weight classifications. All subjects were asked to sort the 12 figures into those who appeared to be underweight, average or about right, or overweight. The data from this portion of the study was analyzed using a Chi Square statistic and showed how each of the 12 stimulus figures were sorted with regard to their perceived weight. While this comprised the last portion of the study, it will be reported on first in the results section to give an indication of how subjects perceived the 12 figures.

CHAPTER 3

RESULTS

Validity of the stimulus figures

To assess the face validity of the stimulus figures, participants were asked to rate the figures as being either 1) underweight, 2) average/about right, or 3) overweight. The following results are based on the responses of all 368 subjects. Ratings for the figures were analyzed using the Chi Square Goodness of Fit test, with all figures achieving highly significant Chi Square values. Chi Square Tests of Independence were then utilized to assess for any differences in ratings between subject groups. Eight of the 12 figures were rated as belonging to their planned weight category (e.g. underweight, average/about right, or overweight), but discrepancies in weight ratings were found for figures u7, u8, u10, and n10.

Underweight figures

A Chi Square Goodness of Fit test revealed figure u7 to be rated as underweight or of normal weight more frequently than overweight ($X^2(2) = 180.2$, $p<.001$). Results showed that 179 subjects (48.6%) rated figure u7 as underweight, 186 subjects (50.5%) rated it as about right, and 1 subject (0.3%) rated it as overweight. Thirty-six percent (36%) of Hispanic women and 38% of African American men judged the figure to be of average weight/about right, compared to 52% of Caucasian men, 53% of Caucasian women, 54% of African American women, and 67% of Hispanic men.

Figure u8 achieved similar ratings, as it was judged as underweight or of average weight more frequently than overweight ($X^2(2) = 185.6$, $p<.001$). It was rated underweight by 205 subjects (55.7%), of average weight by 158 subjects (42.9%), and overweight by 2 subjects (0.5%). Of interest was the finding that only 27% of African American men found figure u8 to be of average weight, compared to 43% of Caucasian men, 46% of Caucasian women, 42% of African American women, 50% of Hispanic men, and 47% of Hispanic women.

Figure u9 was generally found to be underweight (X^2 (2) = 438.8, $p< .001$). Three hundred eight subjects (83.7%) rated it as underweight, 54 subjects (14.7%) perceived it as being about right, and 3 subjects (0.8%) found it to be overweight. The figure was rated similarly across subject groups.

Like figures u7 and u8, figure u10 was judged to be underweight or of average weight by most subjects ($X^2(2) = 276.8$, $p< .001$). Results showed that 261 (70.9%) subjects rated figure u10 as underweight, 98 subjects (26.6%) rated it as of average weight, and 5 subjects (1.4%) rated it as overweight. Only 14% of African American females and 21% of African American males judged the figure to be of average weight/about right, compared to 36% of Caucasian males, 31% of Caucasian females, 29% of Hispanic males, and 30% of Hispanic females.

Normal weight figures

Most subjects tended to rate figure n7 as being of average weight ($X^2(2) = 527.4$, $p< .001$). Results showed that only 2 subjects (0.5%) perceived it as being underweight, 327 subjects (88.9%) rated it as being of average weight, and 35 subjects (9.5%) rated it

as overweight. Although not a large discrepancy, it was found that 12% of Caucasian males, 13% of Caucasian females and 14% of Hispanic males judged the figure to be overweight, compared to only 6% of Hispanic females and 6% of African American men and women.

Figure n8 achieved similar appraisals, being rated as about right by most subjects ($X^2(2) = 508.1$, $p < .001$). The data revealed that 4 subjects (1.1%) rated figure n8 as underweight, 322 subjects (87.5%) rated it as about right, and 36 subjects (9.8%) rated it as overweight. Of interest was the finding that 16% of Caucasian men and 15% of Hispanic women rated it as overweight compared to 3% of African American men, 6% of African American women, and 9% of Caucasian women and Hispanic men.

Figure n9 also received convincing support for its planned weight category, as a majority of subjects rated it as of average weight ($X^2(2) = 429.1$, $p < .001$). Results showed that 7 subjects (1.9%) rated figure n9 as underweight, 307 subjects (83.4%) rated it as being of average weight, and 52 subjects (14.1%) found it to be overweight. Twenty-one percent (21%) of Caucasian men, 13% of Caucasian women, 9% of African American men and women, and 17% of Hispanic men and women rated the figure as overweight.

Figure n10 received less convincing support, as most subjects consistently rated it as belonging in either the average weight or overweight categories ($X^2(2) = 220.1$, $p < .001$). Results revealed that 4 subjects (1.1%) found figure n10 to be underweight, 235 (63.9%) rated it as being about right, and 125 subjects (34.0%) rated it as overweight. Interestingly, 46% of Caucasian men and 49% of Hispanic men judged the figure to be

overweight, compared to 31% of Caucasian women, 24% of African American men, 30% of African American women, and 28% of Hispanic women.

Overweight figures

In general, the overweight figures were ranked more consistently than the underweight and normal weight figures. A Chi Square analysis showed that figure o7 was rated as overweight by a significant number of subjects ($X^2(2) = 571.7$, $p < .001$), as only 3 subjects (0.8%) rated it as underweight, 25 subjects (6.8%) rated it as about right/average, and 336 subjects (91.3%) perceived it to be overweight. Fourteen percent (14%) of Hispanic men rated the figure as about right, compared to 8% of Caucasian men, 2% of Caucasian women, 6% of African American men, 11% of African American women, and 2% of Hispanic women.

Figure o8 was also consistently perceived as overweight by subjects ($X^2(2) = 439.6$, $p < .001$). Although there was slightly less agreement between subjects, figure o8 appeared to have fairly good face validity as 0 subjects (0.0%) rated it as underweight, 57 subjects (15.5%) rated it as being about right, and 307 subjects (83.4%) rated it as overweight. Twenty-six percent (26%) of African American females judged figure o8 to be about right, compared to 11% of Caucasian men, 10% of Caucasian women, 15% of African American men, 17% of Hispanic men, and 15% of Hispanic women.

Figure o9 was found to be overweight by a large majority of subjects ($X^2(2) = 606.0$, $p < .001$) as 0 subjects (0.0%) rated it as underweight, 22 subjects (6.0%) rated it as being of average weight, and 343 subjects (93.2%) rated it as overweight. Again, a larger percentage of African American females judged the figure as about right. Specifically,

13% placed it in the average/about right category compared to only 1% of Caucasian men, 3% of Caucasian women, 9% of African American men, 6% of Hispanic men, and 4% of Hispanic women.

Lastly, figure o10 was consistently perceived to be overweight by subjects ($X^2(2) = 652.8$, $p < .001$). The data revealed that 0 subjects (0.0%) rated figure o10 as underweight, only 13 subjects (3.5%) rated it as being of average weight, and 351 subjects (95.4%) rated it as overweight. No apparent differences in ratings were found between subject groups.

The remainder of the results are based on comparative group statistics from the income modified sample of 297 subjects, unless otherwise noted. The following section summarizes results from the 6 questions that were used to assess subjects' ideas about attractiveness, female body shapes, and their own shape and weight (for women only).

Which figure do you think is ideal for a female?

To assess subjects' perceptions of the ideal female body shape, all subjects were asked, "Which figure do you think is ideal for a female?" Two hundred ninety-six of the 297 subjects in the income refined sample responded to this question. A preliminary Chi Square analysis between subject group and figure chosen provided unsatisfactory cell counts, as 68.2% of the cells contained less than 5 subjects. Upon closer examination, the Chi Square analysis revealed several findings. Of primary importance were outlying cases, or "rare events," in which very few cases were found in a cell. For instance, no subjects (0 %) reported that they found figure o10 to be ideal for a female. Similarly, only 1 Hispanic male (.3%) chose figure o9, 2 African American females (.7%) chose figure

o8, 3 subjects or 1.0% (1 African American male, 1 African American female, and 1 Hispanic female) chose figure o7, 1 Caucasian male (.3%) selected figure n10, and 2 Hispanic males and 2 Caucasian females (1.4%) selected figure u10. Such rare events indicate that very few subjects found overweight figures or those with a WHR of 1.0 (no curvature in waist/hips) to represent the female ideal. Rather, most subjects preferred female figures that were underweight or of normal weight, with some degree of body curvature. A log linear analysis was performed to further identify sample differences. To provide a more accurate assessment of the sample, the "rare events" listed above were excluded from the analysis and treated as outliers.

The data for the remaining 285 subjects was used to develop a hierarchical loglinear model of the relationship between gender, race, and figure choice. The analysis was particularly interested in the three-way variable interaction, the two-way interactions between gender and figure choice, and race and figure choice, and the main effects for figure choice, gender, and race. The final hierarchical model included the two-way effects of gender by figure choice and race by figure choice, and main effects for figure, gender, and race. No statistically significant 3-way interaction was observed. The model had a likelihood ratio Chi Square of $X^2(12) = 16.85$, $\underline{p} = .155$, indicating a good fit between observed frequencies and the expected frequencies generated by the model. Following the model selection, none of the 36 cells represented a statistical outlier. The parameter estimates for the cells and partial correlations suggest that the 12 figures contributed most to the variance in cell frequency. The two-way interaction effects were influential, but to a lesser extent. A Chi Square analysis of figure choice revealed that

38.2% of subjects chose figure u7 as ideal, 20.7% chose figure n7, 19.3% chose figure u8, 9.8% selected figure n8, 6.3% chose figure n9, and 5.6% found figure u9 to represent the ideal female. Figure selection was fairly equivalent among males and females, except for figures u7 and u8, as can be seen in Table 1. Forty-eight percent (48%) of males selected figure u7 compared to only 31% of females. On the other hand, 23% of women chose figure u8 as most ideal, compared with only 15% of men. More variability was found between figure choice when race was taken into account. As Table 2 shows, more African Americans (33%) chose figure n7 than Caucasian (13%) or Hispanic subjects (18%). Figures n8, n9, and u9 were selected in approximately similar proportions by the different racial groups. Slightly more Caucasians (42%) chose figure u7 than African Americans (36%) and Hispanics (35%). However, more Hispanic subjects (30%) rated figure u8 as ideal when compared to Caucasian (19%) and African American subjects (12%).

Tables 3 and 4 show the features of the loglinear model, including the partial correlations between terms of the model and the development of the loglinear model. Table 5, included in Appendix E, shows the parameter estimates for the loglinear model.

Table 1

Collapsed gender crosstabulation for: Which figure do you think is ideal for a female?

	Figure Shape						
Gender	u7	u8	u9	n7	n8	n9	Total
Male							
observed frequency	56	17	4	21	13	5	116
row percentage	48.3%	14.7%	3.4%	18.1%	11.2%	4.3%	40.7%
column percentage	51.4%	30.9%	25.0%	35.6%	46.4%	27.8%	
total percentage	19.6%	6.0%	1.4%	7.4%	4.6%	1.8%	
Female							
observed frequency	53	38	12	38	15	13	169
row percentage	31.4%	22.5%	7.1%	22.5%	8.9%	7.7%	59.3%
column percentage	48.6%	69.1%	75.0%	64.4%	53.6%	72.2%	
total percentage	18.6%	13.3%	4.2%	13.3%	5.3%	4.6%	
Column	109	55	16	59	28	18	285
Total	38.2%	19.3%	5.6%	20.7%	9.8%	6.3%	100.0%

Chi - Square	Value	DF	Significance
Pearson	11.22968	5	.04701
Likelihood Ratio	11.37455	5	.04444

Table 2

Collapsed racial crosstabulation for: Which figure do you think is ideal for a female?

	Figure Shape						
Race	u7	u8	u9	n7	n8	n9	Total
Caucasian							
observed frequency	50	22	10	16	15	6	119
row percentage	42.0%	18.5%	8.4%	13.4%	12.6%	5.0%	41.8%
column percentage	45.9%	40.0%	62.5%	27.1%	53.6%	33.3%	
total percentage	17.5%	7.7%	3.5%	5.6%	5.3%	2.1%	
African American							
observed frequency	33	11	3	30	6	9	92
row percentage	35.9%	12.0%	3.3%	32.6%	6.5%	9.8%	32.3%
column percentage	30.3%	20.0%	18.8%	50.8%	21.4%	50.0%	
total percentage	11.6%	3.9%	1.1%	10.5%	2.1%	3.2%	
Hispanic							
observed frequency	26	22	3	13	7	3	74
row percentage	35.1%	29.7%	4.1%	17.6%	9.5%	4.1%	26.0%
column percentage	23.9%	40.0%	18.8%	22.0%	25.0%	16.7%	
total percentage	9.1%	7.7%	1.1%	4.6%	2.5%	1.1%	
Column	109	55	16	59	28	18	285
Total	38.2%	19.3%	5.6%	20.7%	9.8%	6.3%	100.0%

Chi - Square	Value	DF	Significance
Pearson	24.72794	10	.00589
Likelihood Ratio	23.93198	10	.00778

Table 3

Tests of partial associations for: Which figure do you think is ideal for a female?

Effect Name	DF	Partial Chi Square	Probability
Gender * Race (G*R)	2	4.922	.0853
Gender * Figure (G*F)	25	11.306	.0456
Race * Figure (R*F)	10	23.863	.0080
Gender (G)	1	9.914	.0016
Race (R)	2	10.732	.0047
Figure (F)	5	123.434	.0000

Table 4

Model development for: What figure do you think is ideal for a female?

Step	Term Removed	DF	Likelihood Ratio Chi Square Change	Prob.	Terms Remaining In Model	DF	Likelihood Ratio Chi Square	Prob.
0	None (Saturated Model)				G*R*F, G*R, G*F, R*F, G, R, F	0	0	1.000
1	G*R*F	10	11.932	.2897	G*R, G*F, R*F, G, R, F	10	11.93	.290
2	G*R	2	4.922	.0853	G*F, R*F, G, R, F	12	16.85	.155
3	No More Terms Deleted From Model (Final Model exists in Step 2)							

Which figure do you find most attractive?

To assess subjects' preference for the most attractive female body shape, all subjects were asked, "Which figure do you find most attractive?" All 297 subjects responded to this question. As above, "rare events" caused 67% of the cells in a preliminary Chi Square analysis to have insufficient frequencies, yielding a suspect Chi Square value of $X^2(40) = 64.0$, $p < .01$. The analysis showed that figures o9, o10, and n10 were never selected as being most attractive. Likewise, figure o7 was chosen by 1 African American male and 2 African American females, representing 1.0% of the sample. Figure o8 was selected by only .7% of the subjects, 1 Hispanic male and 1 African American female. Similarly, figure u10 was chosen by .7% of the sample, 1 Hispanic male and 1 Hispanic female. Figure u9 was also rarely selected, being preferred by only 7 subjects (2.4%), 2 Hispanic females, 1 Caucasian male, and 4 Caucasian females. Tables 6 and 7 represent collapsed gender and racial crosstabulations for the entire sample.

In a preliminary hierarchical loglinear analysis utilizing 290 subjects and figures u7, u8 and u9 combined, n7, and n8 and n9 combined, only 5 cells (21%) contained less than 5 cases. The model generated a likelihood ratio Chi Square of $X^2(11) = 17.8$, $p = .087$, representing an adequate fit between observed and expected frequencies. The model included the race by figure interaction and all main effects. Using this model, 2 cells approached significance as potential outliers. More Hispanic men than expected chose either figure n8 or n9, whereas less Hispanic women than expected selected these figures.

A second loglinear analysis was performed including the same 290 subjects, but using figures u7, u8, u9, n7, n8, and n9 individually. As before, the model included the race by figure interaction, and the figure, race, and gender main effects. The model also yielded a good fit between observed and expected cell frequencies as evidenced by its likelihood ratio Chi Square value of $X^2(17) = 24.0$, $p = .121$. Using this model, none of the cells was an outlier, although 50% of the cells contained less than 5 cases. Neither the first or second models included the 3-way interaction between gender, race, and figure choice. Tables 8 and 9 are collapsed crosstabulations showing the gender and racial breakdown of figure choice for the second model.

As indicated above, both models effectively represented the data, but the second model generated a larger Chi Square significance level, indicating a better fit. Despite more cells with small frequencies, the second model allows greater interpretation since more figure variable levels were included, rather than combined as in the first model. The figures themselves contributed most to variability in this question, followed by the race by figure interaction. Table 8 shows that males and females chose the figures in approximately equal percentages. As evidenced in Table 9, the three figures chosen least frequently, u9, n8, and n9, were generally selected in equal proportions across racial groups with only slight variations. Four percent (4%) of Caucasians, 0% of African Americans, and 3% of Hispanics selected figure u9. Figure n8 was chosen by 7% of Caucasians, 9% of African Americans, and 3% of Hispanics. Likewise, figure n9 was selected by 3% of Caucasians, 5% of African Americans, and 3% of Hispanics. Greater variability was found in those figures selected most often. Figure u7 was rated as most

attractive by 46% of the sample, and was selected by 49% of Caucasian, 36% of African American, and 52% of Hispanic subjects. Twenty-three percent (23%) of subjects found figure u8 to be most attractive, as it was chosen by 25% of Caucasians, 15% of African Americans, and 28% of Hispanics. Likewise, figure n7 was selected by 19% of the entire sample, being chosen by 12% of Caucasians, 36% of African Americans, and 12% of Hispanic subjects.

Tables 10 and 11 show the partial correlations and development of the model, and Table 12, included in Appendix E, shows the parameter estimates associated with the second model.

Table 6

Collapsed gender crosstabulation for: Which figure do you find most attractive? (n=297)

	Figure Shape								
Gender	u7	u8	u9	u10	n7	n8	n9	o7 or o8	Total
Male									
observed freq.	59	22	1	1	23	9	5	2	122
row percentage	48.4%	18.0%	.8%	.8%	18.9%	7.4%	4.1%	1.6%	41.1%
column percent.	44.7%	33.3%	14.3%	50.0%	41.1%	50.0%	45.5%	40.0%	
total percentage	19.9%	7.4%	.3%	.3%	7.7%	3.0%	1.7%	.7%	
Female									
observed freq.	73	44	6	1	33	9	6	3	175
row percentage	41.7%	25.1%	3.4%	.6%	18.9%	5.1%	3.4%	1.7%	58.9%
column percent.	55.3%	66.7%	85.7%	50.0%	58.9%	50.0%	54.5%	60.0%	
total percentage	24.6%	14.8%	2.0%	.3%	11.1%	3.0%	2.0%	1.0%	
Column	132	66	7	2	56	18	11	5	297
Total	44.4%	22.2%	2.4%	.7%	18.9%	6.1%	3.7%	1.7%	100.0%

Chi - Square	Value	DF	Significance
Pearson	5.17306	7	.63885
Likelihood Ratio	5.50459	7	.59863

Table 7

Collapsed racial crosstabulation for: Which figure do you find most attractive? (n= 297)

	Figure Shape								
Race	u7	u8	u9	u10	n7	n8	n9	o7 or o8	Total
Caucasian									
observed freq.	60	31	5	0	14	8	4	0	122
row percentage	49.2%	25.4%	4.1%	.0%	11.5%	6.6%	3.3%	.0%	41.1%
column percent.	45.5%	47.0%	71.4%	.0%	25.0%	44.4%	36.4%	.0%	
total percentage	20.2%	10.4%	1.7%	.0%	4.7%	2.7%	1.3%	.0%	
African American									
observed freq.	33	14	0	0	33	8	5	4	97
row percentage	34.0%	14.4%	.0%	.0%	34.0%	8.2%	5.2%	4.1%	32.7%
column percent.	25.0%	21.2%	.0%	.0%	58.9%	44.4%	45.5%	80.0%	
total percentage	11.1%	4.7%	.0%	.0%	11.1%	2.7%	1.7%	1.3%	
Hispanic									
observed freq.	39	21	2	2	9	2	2	1	78
row percentage	50.0%	26.9%	2.6%	2.6%	11.5%	2.6%	2.6%	1.3%	26.3%
column percent.	29.5%	31.8%	28.6%	100.0%	16.1%	11.1%	18.2%	20.0%	
total percentage	13.1%	7.1%	.7%	.7%	3.0%	.7%	.7%	.3%	
Column	132	66	7	2	56	18	11	5	297
Total	44.4%	22.2%	2.4%	.7%	18.9%	6.1%	3.7%	1.7%	100.0%

Chi - Square	Value	DF	Significance
Pearson	43.39868	14	.00007
Likelihood Ratio	45.63944	14	.00003

Table 8

Collapsed gender crosstabulation for: Which figure do you find most attractive?

	Figure Shape						
Gender	u7	u8	u9	n7	n8	n9	Total
Male							
observed frequency	59	22	1	23	9	5	119
row percentage	49.6%	18.5%	.8%	19.3%	7.6%	4.2%	41.0%
column percentage	44.7%	33.3%	14.3%	41.1%	50.0%	45.5%	
total percentage	20.3%	7.6%	.3%	7.9%	3.1%	1.7%	
Female							
observed frequency	73	44	6	33	9	6	171
row percentage	42.7%	25.7%	3.5%	19.3%	5.3%	3.5%	59.0%
column percentage	55.3%	66.7%	85.7%	58.9%	50.0%	54.5%	
total percentage	25.2%	15.2%	2.1%	11.4%	3.1%	2.1%	
Column	132	66	7	56	18	11	290
Total	45.5%	22.8%	2.4%	19.3%	6.2%	3.8%	100.0%

Chi - Square	Value	DF	Significance
Pearson	5.10627	5	.40305
Likelihood Ratio	5.43724	5	.36488

Table 9

Collapsed racial crosstabulation for: Which figure do you find most attractive?

	Figure Shape						
Race	u7	u8	u9	n7	n8	n9	Total
Caucasian							
observed frequency	60	31	5	14	8	4	122
row percentage	49.2%	25.4%	4.1%	11.5%	6.6%	3.3%	42.1%
column percentage	45.5%	47.0%	71.4%	25.0%	44.4%	36.4%	
total percentage	20.7%	10.7%	1.7%	4.8%	2.8%	1.4%	
African American							
observed frequency	33	14	0	33	8	5	93
row percentage	35.5%	15.1%	.0%	35.5%	8.6%	5.4%	32.1%
column percentage	25.0%	21.2%	.0%	58.9%	44.4%	45.5%	
total percentage	11.4%	4.8%	.0%	11.4%	2.8%	1.7%	
Hispanic							
observed frequency	39	21	2	9	2	2	75
row percentage	52.0%	28.0%	2.7%	12.0%	2.7%	2.7%	25.9%
column percentage	29.5%	31.8%	28.6%	16.1%	11.1%	18.2%	
total percentage	13.4%	7.2%	.7%	3.1%	.7%	.7%	
Column	132	66	7	56	18	11	290
Total	45.5%	22.8%	2.4%	19.3%	6.2%	3.8%	100.0%

Chi - Square	Value	DF	Significance
Pearson	32.41666	10	.00034
Likelihood Ratio	33.55130	10	.00022

Table 10

Tests of partial associations for: Which figure do you find most attractive?

Effect Name	DF	Partial Chi Square	Probability
Gender * Race (G*R)	2	6.445	.0399
Gender * Figure (G*F)	5	7.385	.1935
Race * Figure (R*F)	10	35.499	.0001
Gender (G)	1	9.375	.0022
Race (R)	2	11.532	.0031
Figure (F)	5	227.673	.0000

Table 11

Model development for: Which figure do you find most attractive?

Step	Term Removed	DF	Likelihood Ratio Chi Square Change	Prob.	Terms Remaining In Model	DF	Likelihood Ratio Chi Square	Prob.
0	None (Saturated Model)				G*R*F, G*R, G*F, R*F, G, R, F	0	0	1.000
1	G*R*F	10	12.077	.2799	G*R, G*F, R*F, G, R, F	10	12.08	.280
2	G*F	5	7.385	.1935	G*R, R*F, G, R, F	15	19.46	.194
3	G*R	2	4.497	.1056	R*F, G, R, F	17	23.96	.121
4	No More Terms Deleted From Model (Final Model exists in Step 3)							

Which figure do you think other women would find most attractive?

To assess how subjects thought most women rated female attractiveness, both male and female subjects were asked to respond to the question, "Which figure do you think other women would find most attractive?" Similar to findings from the previous two questions, no subjects thought that women would rate figures o9, o10, and n10 as most attractive. A preliminary Chi Square analysis revealed other "rare events," as 70% of the crosstabulation cells had frequencies of less than 5 cases. The analysis showed that 1 African American female (.3% of the sample) thought women would find figure o8 to be most attractive. Similarly, 2 African American women (.7%) believed that figure o7 would be rated as most attractive. Figure n9 was selected by a total of 6 subjects (2%), 2 Caucasian males, 1 African American male, 2 African American females, and 1 Hispanic male. One Caucasian male, 3 Caucasian females, 2 African American females, 1 Hispanic male, and 1 Hispanic female chose figure n8, representing 2.7% of the entire sample. Similarly, figure u10 was selected by 8 subjects (2.7%), 1 Caucasian male, 4 African American males, 2 African American females, and 1 Hispanic male.

A hierarchical loglinear analysis was performed using all 297 subjects and 7, rather than 9, levels of figure to help attenuate the effects of infrequently chosen figure shapes. For the analysis, figures u7, u8, u9, u10, and n7 were each included separately in the model. However, figures n8 and n9 were combined into 1 group as were figures o7 and o8. The analysis utilized 5 steps to generate a model including only main effects, as the 2 and 3-way interactions were insignificant. Both the race by figure and gender by figure interactions approached significant levels, as evidenced by their low probabilities

(p = .0867 and p = .0759, respectively). The model had a likelihood ratio $X^2(32) = 39.97$, p = .157, indicating an adequate fit between observed frequencies and expected frequencies under the model. Three of the 42 cells were outliers as follows: approximately 3 more African American males than expected under the model chose figure u10, 5 more Hispanic males than expected chose figure u9, and approximately 3 more African American females than expected selected figures o7 or o8. Such deviations must be interpreted cautiously since no race by figure interaction and no gender by race by figure choice interactions were found to be statistically significant. Tables 13 and 14 reveal that 45% of the sample chose figure u7, 27% selected figure u8, 13% selected figure u9, 7% chose figure n7, and 5% chose figures n8 or n9. Only 3% of the sample believed other women would find figure u10 as most attractive, and 1% thought women would rate figures o7 or o8 as most attractive.

A second loglinear analysis was performed using 286 subjects and only the five figures chosen most often: u7, u8, u9, n7, and n8 or n9 combined. As above, the hierarchical model was generated in 5 steps and the final model contained only main effects, with a likelihood ratio Chi Square value of $X^2(22) = 18.31$, p = .687. Although a race by figure choice interaction was not significant, under the model 1 cell was considered an outlier with a standardized residual of 2.38. Approximately 5 more Hispanic men selected figure u9 than were expected under the model. As noted above, the inadequacy of the model to represent this cell must be interpreted cautiously since the model found only main effects to be most sufficient and parsimonious in explaining the majority of the data.

Tables 13, 14, 15, 16, and 17 correspond to the first model above. Tables 13 and 14 are collapsed crosstabulations showing the gender and racial breakdown with respect to figure choice. Table 13 had an insignificant Chi Square value, as males and females selected the figures in fairly even proportions. Table 14 shows that this was also the case when the sample was assessed with respect to race. Although the Chi Square value was insignificant, it is noteworthy that the majority of subjects selecting figures u10, or o7 or o8 were African American. Tables 15 and 16 show the partial correlations and steps associated with the development of the hierarchical model. Table 17, located in Appendix E, shows the parameter estimates for the model.

Table 13

Collapsed gender crosstabulation for: Which figure do you think other women would find most attractive?

	Figure Shape							
Gender	u7	u8	u9	u10	n7	n8 or n9	o7 or o8	Total
Male								
observed freq.	51	31	21	6	7	6	0	122
row percentage	41.8%	25.4%	17.2%	4.9%	5.7%	4.9%	.0%	41.1%
column percent.	38.1%	38.8%	55.3%	75.0%	35.0%	42.9%	.0%	
total percentage	17.2%	10.4%	7.1%	2.0%	2.4%	2.0%	.0%	
Female								
observed freq.	83	49	17	2	13	8	3	175
row percentage	47.4%	28.0%	9.7%	1.1%	7.4%	4.6%	1.7%	58.9%
column percent.	61.9%	61.3%	44.7%	25.0%	65.0%	57.1%	100.0%	
total percentage	27.9%	16.5%	5.7%	.7%	4.4%	2.7%	1.0%	
Column	134	80	38	8	20	14	3	297
Total	45.1%	26.9%	12.8%	2.7%	6.7%	4.7%	1.0%	100.0%

Chi - Square	Value	DF	Significance
Pearson	10.06104	6	.12211
Likelihood Ratio	11.08068	6	.08591

Table 14

Collapsed racial crosstabulation for: Which figure do you think other women would find most attractive?

		Figure Shape						
Race	u7	u8	u9	u10	n7	n8 or n9	o7 or o8	Total
Caucasian								
observed freq.	57	37	14	1	7	6	0	122
row percentage	46.7%	30.3%	11.5%	.8%	5.7%	4.9%	.0%	41.1%
column percent.	42.5%	46.3%	36.8%	12.5%	35.0%	42.9%	.0%	
total percentage	19.2%	12.5%	4.7%	.3%	2.4%	2.0%	.0%	
African American								
observed freq.	40	26	9	6	8	5	3	97
row percentage	41.2%	26.8%	9.3%	6.2%	8.2%	5.2%	3.1%	32.7%
column percent.	29.9%	32.5%	23.7%	75.0%	40.0%	35.7%	100.0%	
total percentage	13.5%	8.8%	3.0%	2.0%	2.7%	1.7%	1.0%	
Hispanic								
observed freq.	37	17	15	1	5	3	0	78
row percentage	47.4%	21.8%	19.2%	1.3%	6.4%	3.8%	.0%	26.3%
column percent.	27.6%	21.3%	39.5%	12.5%	25.0%	21.4%	.0%	
total percentage	12.5%	5.7%	5.1%	.3%	1.7%	1.0%	.0%	
Column	134	80	38	8	20	14	3	297
Total	45.1%	26.9%	12.8%	2.7%	6.7%	4.7%	1.0%	100.0%

Chi - Square	Value	DF	Significance
Pearson	18.84337	12	.09238
Likelihood Ratio	18.72536	12	.09538

Table 15

Tests of partial associations for: Which figure do you think other women would find most attractive?

Effect Name	DF	Partial Chi Square	Probability
Gender * Race (G*R)	5	.405	.0670
Gender * Figure (G*F)	6	11.433	.0759
Race * Figure (R*F)	12	19.078	.0867
Gender (G)	1	9.509	.0020
Race (R)	2	9.820	.0074
Figure (F)	6	297.581	.0000

Table 16

Model development for: Which figure do you think other women would find most attractive?

Step	Term Removed	DF	Likelihood Ratio Chi Square Change	Prob.	Terms Remaining In Model	DF	Likelihood Ratio Chi Square	Prob.
0	None (Saturated Model)				G*R*F, G*R, G*F, R*F, G, R, F	0	0	1.000
1	G*R*F	12	4.757	.9656	G*R, G*F, R*F, G, R, F	12	4.76	.966
2	R*F	12	19.078	.0867	G*R, G*F, G, R, F	24	23.84	.471
3	G*F	6	11.081	.0859	G*R, G, R, F	30	34.92	.246
4	G*R	2	5.052	.0800	G, R, F	32	39.97	.157
5	No More Terms Deleted From Model (Final Model exists in Step 4)							

Which figure do you think best approximates your current figure?

One hundred seventy-two women answered the question, "Which figure do you think best approximates your current figure?", and responses included all 12 figure shapes. Although all 12 figures were utilized, the majority of women believed that they were most similar to figures in the underweight and normal weight categories. Several figures were rarely chosen, and could be considered "rare events." Specifically, only 1 Caucasian and 1 African American female chose figure u10, representing 1.2% of the female sample. Two Caucasian females and 1 African American female selected figure n10, representing 1.7% of the sample. Lastly, 4 subjects (2.3%) thought that they were best represented by figure o9. The 4 subjects included 1 Caucasian female, 2 African American females, and 1 Hispanic female. A preliminary Chi Square analysis between race and figure choice proved insignificant, yielding a $X^2(22) = 30.67$, $p = .103$; however, this value is suspect because the distribution of figure choice left approximately 56% of the cells with less than 5 cases.

Two loglinear analyses were performed, combining levels of figure as seemed most appropriate. In the first hierarchical analysis, figures u9 and u10, n9 and n10, and o9 and o10 were combined into 3, rather than 6 levels of figure shape. This decreased the number of cells with less than 5 cases from 56% to 37%. The analysis generated a model in 2 steps which included only main effects for race and figure shape, with a likelihood ratio Chi Square of $X^2(16) = 24.64$, $p = .077$. Under the model, one cell was an outlier with a standardized residual of 2.16, as 5 more Hispanic females than expected chose figures u9 or u10. Table 18 shows a crosstabulation between subjects' figure choice and

race. Tables 19 and 20 show the partial correlations and model development, and Table 21, located in Appendix E, shows the parameter estimates associated with the terms of the model.

The second analysis was performed using the same figures above, but combining figure o7 and o8, yielding a total of 8 levels of figure. By combining these figures, 25% of the cells contained less than 5 subjects, representing an acceptable level. Again, a model including only main effects was generated in 2 steps, and yielded a likelihood ratio Chi Square of $X^2(14) = 22.78$, $\underline{p} = .064$. The Pearson Chi Square value just reached significance, as $X^2(14) = 23.84$, $\underline{p} = .048$. As above, the cell which included Hispanic females selecting figures u9 or u10 remained an outlier. Table 22 represents a crosstabulation between figure choice and race for the second model. Tables 23 and 24 show the partial correlations and model development, while Table 25, located in Appendix E, shows the parameter estimates for the model.

Table 18

Collapsed racial crosstabulation for: Which figure do you think best approximates your current figure?

	Figure Shape									
Race	u7	u8	u9 or u10	n7	n8	n9 or n10	o7	o8	o9 or o10	Total
Caucasian										
observed freq.	3	8	7	16	14	9	3	4	2	66
row percent.	4.5%	12.1%	10.6%	24.2%	21.2%	13.6%	4.5%	6.1%	3.0%	38.4%
column perc.	20.0%	42.1%	31.8%	45.7%	53.8%	47.4%	18.8%	44.4%	18.2%	
total percent.	1.7%	4.7%	4.1%	9.3%	8.1%	5.2%	1.7%	2.3%	1.2%	
African American										
observed freq.	9	5	5	12	7	6	10	4	8	66
row percent.	13.6%	7.6%	7.6%	18.2%	10.6%	9.1%	15.2%	6.1%	12.1%	38.4%
column perc.	60.0%	26.3%	22.7%	34.3%	26.9%	31.6%	62.5%	44.4%	72.7%	
total percent.	5.2%	2.9%	2.9%	7.0%	4.1%	3.5%	5.8%	2.3%	4.7%	
Hispanic										
observed freq.	3	6	10	7	5	4	3	1	1	40
row percent.	7.5%	15.0%	25.0%	17.5%	12.5%	10.0%	7.5%	2.5%	2.5%	23.3%
column perc.	20.0%	31.6%	45.5%	20.0%	19.2%	21.1%	18.8%	11.1%	9.1%	
total percent.	1.7%	3.5%	5.8%	4.1%	2.9%	2.3%	1.7%	.6%	.6%	
Column	15	19	22	35	26	19	16	9	11	172
Total	8.7%	11.0%	12.8%	20.3%	15.1%	11.0%	9.3%	5.2%	6.4%	100.0%

Chi - Square	Value	DF	Significance
Pearson	25.46395	16	.06205
Likelihood Ratio	24.63595	16	.07651

Table 19

Tests of partial associations for: Which figure do you think best approximates your current figure?

Effect Name	DF	Partial Chi Square	Probability
Race (R)	2	8.364	.0153
Figure (F)	8	25.454	.0013

Table 20

Model development for: Which figure do you think best approximates your current figure?

Step	Term Removed	DF	Likelihood Ratio Chi Square Change	Prob.	Terms Remaining In Model	DF	Likelihood Ratio Chi Square	Prob.
0	None (Saturated Model)				R*F, R, F	0	0	1.000
1	R*F	16	24.636	.0765	R, F	16	24.64	.077
2	No More Terms Deleted From Model (Final Model exists in Step 1)							

Table 22

Collapsed racial crosstabulation for: Which figure do you think best approximates your current figure?

	Figure Shape								
Race	u7	u8	u9 or u10	n7	n8	n9 or n10	o7 or o8	o9 or o10	Total
Caucasian									
observed freq.	3	8	7	16	14	9	7	2	66
row percent.	4.5%	12.1%	10.6%	24.2%	21.2%	13.6%	10.6%	3.0%	38.4%
column perct.	20.0%	42.1%	31.8%	45.7%	53.8%	47.4%	28.0%	18.2%	
total percent.	1.7%	4.7%	4.1%	9.3%	8.1%	5.2%	4.1%	1.2%	
African American									
observed freq.	9	5	5	12	7	6	14	8	66
row percent.	13.6%	7.6%	7.6%	18.2%	10.6%	9.1%	21.2%	12.1%	38.4%
column perct.	60.0%	26.3%	22.7%	34.3%	26.9%	31.6%	56.0%	72.7%	
total percent.	5.2%	2.9%	2.9%	7.0%	4.1%	3.5%	8.1%	4.7%	
Hispanic									
observed freq.	3	6	10	7	5	4	4	1	40
row percent.	7.5%	15.0%	25.0%	17.5%	12.5%	10.0%	10.0%	2.5%	23.3%
column perct.	20.0%	31.6%	45.5%	20.0%	19.2%	21.1%	16.0%	9.1%	
total percent.	1.7%	3.5%	5.8%	4.1%	2.9%	2.3%	2.3%	.6%	
Column	15	19	22	35	26	19	25	11	172
Total	8.7%	11.0%	12.8%	20.3%	15.1%	11.0%	14.5%	6.4%	100.0%

Chi - Square	Value	DF	Significance
Pearson	23.83903	14	.04791
Likelihood Ratio	22.77599	14	.06401

Table 23

Tests of partial associations for: Which figure do you think best approximates your current figure?

Effect Name	DF	Partial Chi Square	Probability
Race (R)	2	8.364	.0153
Figure (F)	7	17.607	.0139

Table 24

Model development for: Which figure do you think best approximates your current figure?

Step	Term Removed	DF	Likelihood Ratio Chi Square Change	Prob.	Terms Remaining In Model	DF	Likelihood Ratio Chi Square	Prob.
0	None (Saturated Model)				R*F, R, F	0	0	1.000
1	R*F	14	22.776	.0640	R, F	14	22.78	.064
2	No More Terms Deleted From Model (Final Model exists in Step 1)							

As can be seen from both models above, the main effect for figure shape was most influential in cell frequencies, while the racial main effect played a more secondary role. The data from the first analysis (Table 18) shows that 20% of subjects' current body shapes were best represented by figure n7, 15% by figure n8, 13% by figures u9 or u10, 11% by figure u8, 11% by either figures n9 or n10, 9% by figure u7, 9% by figure o7, 5% by figure o8, and 6% by figures o9 or o10.

From the second loglinear analysis which yielded a significant Pearson Chi Square value ($X^2(14) = 23.8$, $p = .048$), the data reveal that 14.5% of subjects were best approximated by figures o7 or o8. Eleven percent (11%) of Caucasian women, 21% of African American women, and 10% of Hispanic women selected figures o7 or o8. Similarly, 6% of subjects stated that figures o9 or o10 best represented their figure. Approximately 3% of Caucasian and Hispanic women selected these figures compared with 12% of African American women.

Which figure do you think that men would find most attractive?

Despite the fact that 10 of the 12 figure shapes were chosen by subjects to answer this question, the overwhelming majority of women selected either figures n7, u7, or u8. A preliminary crosstabulation and Chi Square analysis revealed many "rare events," as evidenced by the fact that 70% of the 30 cells contained less than 5 cases. Figures o9 and o10 were not selected by any subjects and were, thus, not included in the analysis. The data showed that figures o7, o8, and n10 were each chosen by 1 African American woman (.6% of the sample for each figure). One Hispanic female (.6%) selected figure

u10. In addition, 3 African American females (1.7%) selected figure n9. Only 8 subjects (4.7%) selected figure n8, and 7 women (4.1%) chose figure u9.

Two subsequent hierarchical loglinear analyses were utilized to examine the data. The first analysis included 150 subjects and figures u7, u8, and n7, as 87% of the sample chose 1 of these 3 figures. The analysis generated a saturated model (included all possible terms) which included the race by figure choice interaction, as well as main effects. Since the model contained all possible effects to explain the data, the likelihood ratio Chi Square was 0, with a $\underline{p} = 1.0$. A subsequent crosstabulation between race and figure choice revealed a highly significant Pearson Chi Square value, $X^2(4) = 23.19$, $p < .001$. The analysis showed that 50% of subjects chose figure u7, 31% chose figure u8, and 19% chose figure n7. The racial groups were fairly evenly distributed with respect to selecting figure u7. However, figures u8 and n7 were not as evenly distributed as 37% of Caucasian, 19% of African American, and 39% of Hispanic women selected figure u8. Thirty-nine percent (39%) of African American women compared to only 5% of Caucasian women and 14% of Hispanic women selected figure n7. Table 26 includes the crosstabulation results, and Tables 27 and 28 show the partial correlations and model development. Table 29, located in Appendix E, shows the parameter estimates for the model.

Table 26

Collapsed racial crosstabulation for: Which figure do you think that men would find most attractive?

	Figure Shape			
Race	u7	u8	n7	Total
Caucasian				
observed frequency	35	22	3	60
row percentage	58.3%	36.7%	5.0%	40.0%
column percentage	46.7%	47.8%	10.3%	
total percentage	23.3%	14.7%	2.0%	
African American				
observed frequency	23	10	21	54
row percentage	42.6%	18.5%	38.9%	36.0%
column percentage	30.7%	21.7%	72.4%	
total percentage	15.3%	6.7%	14.0%	
Hispanic				
observed frequency	17	14	5	36
row percentage	47.2%	38.9%	13.9%	24.0%
column percentage	22.7%	30.4%	17.2%	
total percentage	11.3%	9.3%	3.3%	
Column	75	46	29	150
Total	50.0%	30.7%	19.3%	100.0%

Chi - Square	Value	DF	Significance
Pearson	23.18730	4	.00012
Likelihood Ratio	23.82774	4	.00009

Table 27

Tests of partial associations for: Which figure do you think that men would find most attractive?

Effect Name	DF	Partial Chi Square	Probability
Race (R)	2	6.538	.0380
Figure (F)	2	21.554	.0000

Table 28

Model development for: Which figure do you think that men would find most attractive?

Step	Term Removed	DF	Likelihood Ratio Chi Square Change	Prob.	Terms Remaining In Model	DF	Likelihood Ratio Chi Square	Prob.
0	None (Saturated Model)				R*F, R, F	0	0	1.000
1	No Terms Deleted From Model (Final Model exists in Step 0)							

Note: If R*F Term was deleted, resulting change in X^2 would be X^2 (10) = 23.828, p = .0001

In the second loglinear analysis, all 172 women and figures u7, u8, and n7 were included, as well as combined levels for figures n8, n9, and n10, u9 and u10, and o7 and o8. Unfortunately, 50% of the cells in this analysis contained less than 5 subjects which limits interpretation. As above, the best model was a saturated model, containing the race by figure choice interaction and main effects. A crosstabulation and Chi Square analysis revealed a highly significant value ($X^2(10) = 31.57$, $\underline{p} < .001$). The crosstabulation in Table 30 shows that 44% of subjects chose figure u7, 27% selected figure u8, 17% chose figure n7, 7% selected either figures n8, n9, or n10, 5% chose either figures u9 or u10, and 1% of subjects selected either figures o7 or o8. The results reveal that Caucasian and Hispanic women were more likely to chose figures u7 and u8 than African American women, while African Americans were more likely to select normal weight and overweight figures.

Table 30

Collapsed racial crosstabulation for: Which figure do you think that men would find most attractive?

	Figure Shape						
Race	u7	u8	u9 or u10	n7	n8, n9, n10	o7 or o8	Total
Caucasian							
observed frequency	35	22	3	3	3	0	66
row percentage	53.0%	33.3%	4.5%	4.5%	4.5%	.0%	38.4%
column percentage	46.7%	47.8%	37.5%	10.3%	25.0%	.0%	
total percentage	20.3%	12.8%	1.7%	1.7%	1.7%	.0%	
African American							
observed frequency	23	10	2	21	8	2	66
row percentage	34.8%	15.2%	3.0%	31.8%	12.1%	3.0%	38.4%
column percentage	30.7%	21.7%	25.0%	72.4%	66.7%	100.0%	
total percentage	13.4%	5.8%	1.2%	12.2%	4.7%	1.2%	
Hispanic							
observed frequency	17	14	3	5	1	0	40
row percentage	42.5%	35.0%	7.5%	12.5%	2.5%	.0%	23.3%
column percentage	22.7%	30.4%	37.5%	17.2%	8.3%	.0%	
total percentage	9.9%	8.1%	1.7%	2.9%	.6%	.0%	
Column	75	46	8	29	12	2	172
Total	43.6%	26.7%	4.7%	16.9%	7.0%	1.2%	100.0%

Chi - Square	Value	DF	Significance
Pearson	31.56589	10	.00047
Likelihood Ratio	33.25088	10	.00025

Table 31

Tests of partial associations for: Which figure do you think that men would find most attractive?

Effect Name	DF	Partial Chi Square	Probability
Race (R)	2	8.364	.0153
Figure (F)	5	136.470	.0000

Table 32

Model development for: Which figure do you think that men would find most attractive?

Step	Term Removed	DF	Likelihood Ratio Chi Square Change	Prob.	Terms Remaining In Model	DF	Likelihood Ratio Chi Square	Prob.
0	None (Saturated Model)				R*F, R, F	0	0	1.000
1	No Terms Deleted From Model (Final Model exists in Step 0)							

Note: If R*F Term was deleted, resulting change in X^2 would be X^2 (10) = 33.251, p = .0002

Which figure would you most like to look like?

To assess weight and figure aspirations, subjects were asked, "Which figure would you most like to look like?" All 172 females provided responses, and figures u7, u8, u9, n7, n8, n9, o8, and o10 were utilized. A preliminary likelihood ratio Chi Square was significant ($X^2(14) = 30.97$, $p < .01$), but 54% of the 24 cells contained less than 5 subjects. Of interest was the fact that no women in the sample wished to look like figures o7, o9, n10, and u10. Only 1 African American woman (.6%) wished to look like figure o8, and another African American woman (.6%) wanted to look like figure o10. Other seldom chosen shapes included figure n9, selected by 5 women (2.9%) and figure u9, selected by 6 subjects (3.5%). Of those selecting figure n9, 4 were African American and 1 was Hispanic. Figure u9 was selected by 3 Caucasian women, 1 African American woman, and 2 Hispanic females.

A hierarchical loglinear analysis was performed that utilized the figures above, with figures o8 and o10 combined for the analysis. The best model generated was a saturated model, including the race by figure interaction and main effects. A subsequent Pearson Chi Square crosstabulation yielded a significant, yet suspect, value due to insufficient cell sizes ($X^2(12) = 28.19$, $p < .01$). The results are summarized in Table 34, and show that 38% of women wanted to look like figure u7, 29% would most like to look like figure u8, 19% like figure n7, 7% like figure n8, 3.5% like figure u9, 3% like figure n9, and 1% like either figures o8 or o10. Tables 35 and 36 show the partial correlations and development of the model, while Table 37, located in Appendix E, shows the parameter estimates for the model.

Table 34

Collapsed racial crosstabulation for: Which figure would you most like to look like?

	Figure Shape							
Race	u7	u8	u9	n7	n8	n9	o8 or o10	Total
Caucasian								
observed frequency	31	21	3	5	6	0	0	66
row percentage	47.0%	31.8%	4.5%	7.6%	9.1%	.0%	.0%	38.4%
column percentage	47.7%	42.9%	50.0%	15.2%	50.0%	.0%	.0%	
total percentage	18.0%	12.2%	1.7%	2.9%	3.5%	.0%	.0%	
African American								
observed frequency	19	13	1	22	5	4	2	66
row percentage	28.8%	19.7%	1.5%	33.3%	7.6%	6.1%	3.0%	38.4%
column percentage	29.2%	26.5%	16.7%	66.7%	41.7%	80.0%	100.0%	
total percentage	11.0%	7.6%	.6%	12.8%	2.9%	2.3%	1.2%	
Hispanic								
observed frequency	15	15	2	6	1	1	0	40
row percentage	37.5%	37.5%	5.0%	15.0%	2.5%	2.5%	.0%	23.3%
column percentage	23.1%	30.6%	33.3%	18.2%	8.3%	20.0%	.0%	
total percentage	8.7%	8.7%	1.2%	3.5%	.6%	.6%	.0%	
Column	65	49	6	33	12	5	2	172
Total	37.8%	28.5%	3.5%	19.2%	7.0%	2.9%	1.2%	100.0%

Chi - Square	Value	DF	Significance
Pearson	28.19042	12	.00519
Likelihood Ratio	30.97640	12	.00199

Table 35

Tests of partial associations for: Which figure would you most like to look like?

Effect Name	DF	Partial Chi Square	Probability
Race (R)	2	8.364	.0153
Figure (F)	6	153.499	.0000

Table 36

Model development for: Which figure would you most like to look like?

Step	Term Removed	DF	Likelihood Ratio Chi Square Change	Prob.	Terms Remaining In Model	DF	Likelihood Ratio Chi Square	Prob.
0	None (Saturated Model)				R*F, R, F	0	0	1.000
1	No Terms Deleted From Model (Final Model exists in Step 0)							

Note: If R*F Term was deleted, resulting change in X^2 would be X^2 (12) = 30.976, p = .0020

A second hierarchical analysis was performed, using only those figures chosen most often: u7, u8, n7, and n8. Using this model, only 1 cell (8%) had an observed frequency less than 5. As above, the best model that could explain the data was a saturated one, including the 2-way interaction and main effects. The model revealed that 49% of Caucasian women, 32% of African American, and 41% of Hispanic women selected figure u7. Likewise, figure u8 was chosen by 33% of Caucasian, 22% of African American, and 41% of Hispanic women. On the other hand, figure n7 was selected by 8% of Caucasian, 37% of African American, and 16% of Hispanic females. Figure n8 was selected by 10% of Caucasians and 9% of African Americans, but only 3% of Hispanic women. Table 38 shows a crosstabulation of the data, and Tables 39 and 40 show the partial correlations and model development, respectively. Table 41, located in Appendix E, shows the parameter estimates for the model.

Table 38

Collapsed racial crosstabulation for: Which figure would you most like to look like?

	Figure Shape				
Race	u7	u8	n7	n8	Total
Caucasian					
observed frequency	31	21	5	6	63
row percentage	49.2%	33.3%	7.9%	9.5%	39.6%
column percentage	47.7%	42.9%	15.2%	50.0%	
total percentage	19.5%	13.2%	3.1%	3.8%	
African American					
observed frequency	19	13	22	5	59
row percentage	32.2%	22.0%	37.3%	8.5%	37.1%
column percentage	29.2%	26.5%	66.7%	41.7%	
total percentage	11.9%	8.2%	13.8%	3.1%	
Hispanic					
observed frequency	15	15	6	1	37
row percentage	40.5%	40.5%	16.2%	2.7%	23.3%
column percentage	23.1%	30.6%	18.2%	8.3%	
total percentage	9.4%	9.4%	3.8%	.6%	
Column	65	49	33	12	159
Total	40.9%	30.8%	20.8%	7.5%	100.0%

Chi - Square	Value	DF	Significance
Pearson	19.56674	6	.00331
Likelihood Ratio	20.07760	6	.00268

Table 39

Tests of partial associations for: Which figure would you most like to look like?

Effect Name	DF	Partial Chi Square	Probability
Race (R)	2	7.839	.0198
Figure (F)	3	43.406	.0000

Table 40

Model development for: Which figure would you most like to look like?

Step	Term Removed	DF	Likelihood Ratio Chi Square Change	Prob.	Terms Remaining In Model	DF	Likelihood Ratio Chi Square	Prob.
0	None (Saturated Model)				R*F, R, F	0	0	1.000
1	No Terms Deleted From Model (Final Model exists in Step 0)							

Note: If R*F Term was deleted, resulting change in X^2 would be X^2 (6) = 20.078, p = .0027

Traits attributed to the stimulus figures

The following section summarizes the results for the second portion of the study, in which subjects were asked to rank order the figures based on how they expected them to be with respect to various physical and personality traits. All subjects were asked to rank the twelve figures from 1st to 12th on the following eight physical and personality descriptors: attractive, sexy, family-oriented, faithful, emotionally stable, kind, successful, and competitive. Results were based on data from those subjects who provided usable rank order information. A dissimilarity matrix and proximities (distances) were computed from the subjects' ordinal data. The proximities were then scaled into a multidimensional space using the SPSS nonmetric multidimensional scaling procedure (ALSCAL). After the spatial map for each variable was developed, a frequency analysis was used to identify the direction of figure rankings. To simplify interpretation, the frequency analysis utilized grouped rankings to describe subjects' responses. Rather than compare each place value, the rankings were grouped into thirds. That is, any time a figure was ranked in 1st, 2nd, 3rd, or 4th place, it was considered to be placed within the "first third" or "top third" of the rankings. Likewise, figures given rankings of 5th, 6th, 7th, or 8th were labeled as belonging to the "second third" or "middle third" of the ratings. Lastly, figures that were ranked in either 9th, 10th, 11th, or 12th place were considered to belong to the "last third" or "bottom third" of the rankings. The scaling and frequency results for each variable follow. Reported results are based on data from the income adjusted sample of 297 subjects.

Attractive

Two hundred seventy-five (92.6%) of the 297 subjects provided usable responses to the question, "Please rate the figures on how physically attractive you find them (how visually appealing are each of the figures?)." The results in Table 42 indicate the number of iterations necessary to generate each two-dimensional solution, as well as the resultant s-stress and R^2 values. The s-stress values are all close to 0 and the R^2 values are all very close to 1, indicating that the two-dimensional Euclidean distance proximities and spatial maps fit the data exceptionally well for all subject groups. Figure 1 shows the spatial configuration for the entire sample.

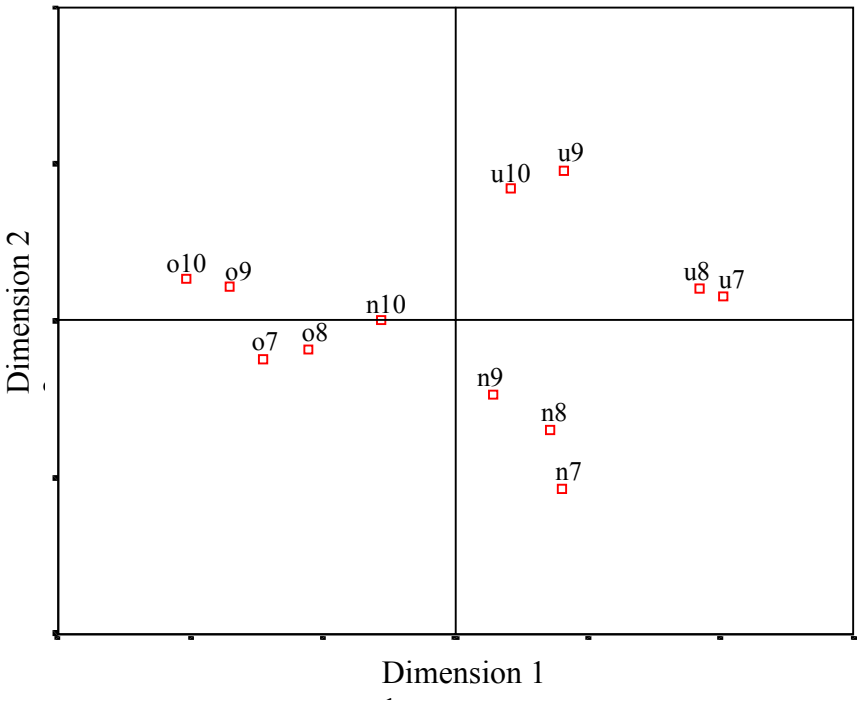
Table 42

Summary of ALSCAL solution for: Attractiveness

Subject Group	n	Iterations	s-stress	R^2
All Subjects	275	5	.01023	.99814
Caucasian males	55	4	.01681	.99688
Caucasian females	60	5	.01274	.99827
African American males	31	5	.02432	.99440
African American females	58	4	.05913	.97557
Hispanic males	32	4	.02412	.98776
Hispanic females	39	4	.02263	.98863

Figure 1

ALSCAL spatial map for: Attractive (All subjects: n = 275)



As can be seen from the spatial map, subjects perceived the figures as belonging to four similar "clusters," with figures u7 and u8 forming the first cluster, figures u9 and u10 the second, figures n7, n8, and n9 the third cluster, and a fourth less well defined cluster consisting of the four overweight figures and figure n10. Those figures found within each cluster were perceived similarly with respect to attractiveness, whereas figures existing in different clusters were judged to be more different.

A frequency analysis of subjects' rankings showed that figures u7 and u8 were consistently ranked most attractive, as figure u7 was ranked within the first third by 80% of subjects and figure u8 was ranked within the first third by 77% of subjects. Figures u9

and u10 showed more scatter, but were generally rated as rather attractive, as 51% of subjects placed figure u9 in the first third and 40% of subjects rated figure u10 as belonging to the second third of the rankings. Approximately 20% of subjects rated figures u9 and u10 as being unattractive, that is, in the last third of the rankings.

Figure n7 was rated as being rather attractive by almost all subjects, as 55% placed it within the first third and 42% placed it in the second third of the rankings. Similarly, figure n8 was ranked in the first third by 47% of subjects and in the second third by 49%. Figure n9 was also found to be fairly attractive, although less so than figures n7 and n8, as 72% of subjects rated it as belonging to the middle third, but only 25% of subjects placed it in the top of the rankings. Figure n10 ranged from being rated as somewhat attractive to unattractive, as 62% of subjects placed it in the middle third of the rankings, while 31% placed it in the last third.

On the other hand, figures o7, o8, o9, and o10 were consistently rated unattractively, as each was placed in the bottom third of the rankings by 71%, 62%, 80%, and 89% of subjects, respectively. Not surprisingly, figure o10 was rated as most unattractive, being ranked in 12^{th} place by 42% of subjects.

Figures 2, 3, 4, 5, 6, and 7 show the attractiveness spatial maps generated for each subject group. The figure clusters and configurations observed for the total sample were well preserved for most of the subject groups, although African American females tended to show more scatter than the other subject groups, which is highlighted when a frequency analysis is performed for the group responses.

For instance, only 68% of African American females placed figure u7 in the top third of the rankings, whereas 80% to 88% of the other subjects rated it in this fashion. A similar trend was found for figure u8, which was ranked in the top third by 74% to 95% of subjects in the other groups, yet only 51% of African American women placed figure u8 in this way. Likewise, figure u9 was placed in the top third of the ratings by 48% to 63% of subjects depending on group, but only 29% of African American women judged it in this way. African American women also rated figure u10 more unattractively than the other subjects, as 56% placed the figure in the bottom third compared with only 14% to 20% of subjects from the other groups.

Although generally rated as attractive by all subject groups, the normal weight figures appeared to be rated more favorably by African Americans. Approximately 61% of African American males and 76% of African American females rated figure n7 within the top third, compared with between 41% and 51% of the other subjects. All subject groups rated figure n8 favorably, placing it within the top and middle thirds. However, figure n9 was favored by African Americans, as 36% of African American men and 41% of African American women placed it in the top of the ratings, compared with between 17% to 23% of the other subjects. Figure n10, on the other hand, was rated more unfavorably by African American women, as 42% placed it in the bottom third of the rankings compared with only 25% to 30% of subjects from the other groups.

African American women rated some overweight figures more favorably than the other groups. For example, figure o7 was placed in the bottom third of the rankings by 73% to 86% of most subjects, while only 50% of African American women rated it in

this way. Likewise, figure o8 was rated more favorably by African American women as 40% of them placed it in the bottom third, compared with between 61% and 71% of the other subjects. Figure o9 received similar judgements, as 59% of African American women rated it as unattractive, compared with 74% of Hispanic males and between 81% to 91% of the other subjects. Figure o10 was consistently rated as unattractive by all subject groups with minimal variation.

Sexy

All subjects were asked to, "Please rate the figures on how sexy you find them (how sexually appealing are each of the figures?)." Two hundred sixty-three (88.6%) of the 297 subjects provided usable responses. The results in Table 43 indicate the number of iterations necessary to generate each two-dimensional solution, as well as the resultant s-stress and R^2 values. The s-stress values are all quite close to 0 and the R^2 values all approximate 1, indicating that the distance proximities and spatial maps fit the data exceptionally well for all subject groups.

Figure 2

ALSCAL spatial map for: Attractive (Caucasian males: n = 55)

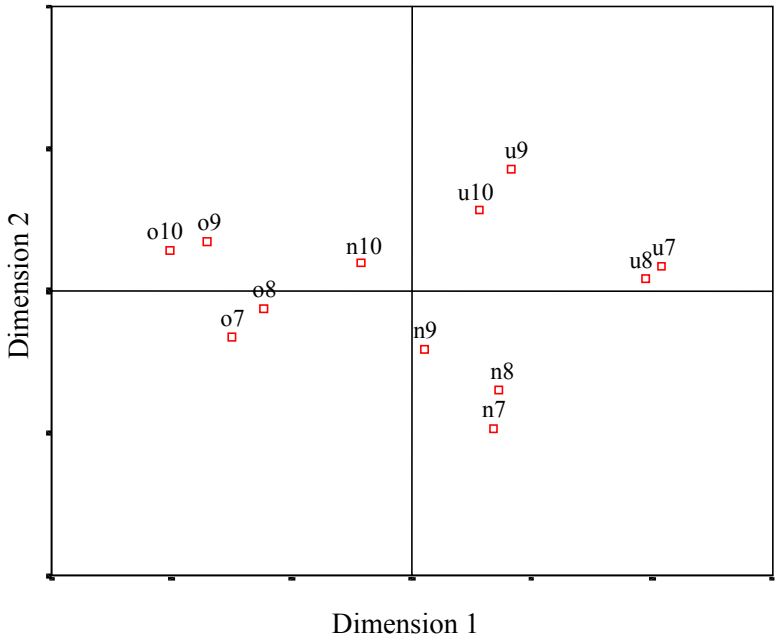


Figure 3

ALSCAL spatial map for: Attractive (Caucasian females: n = 60)

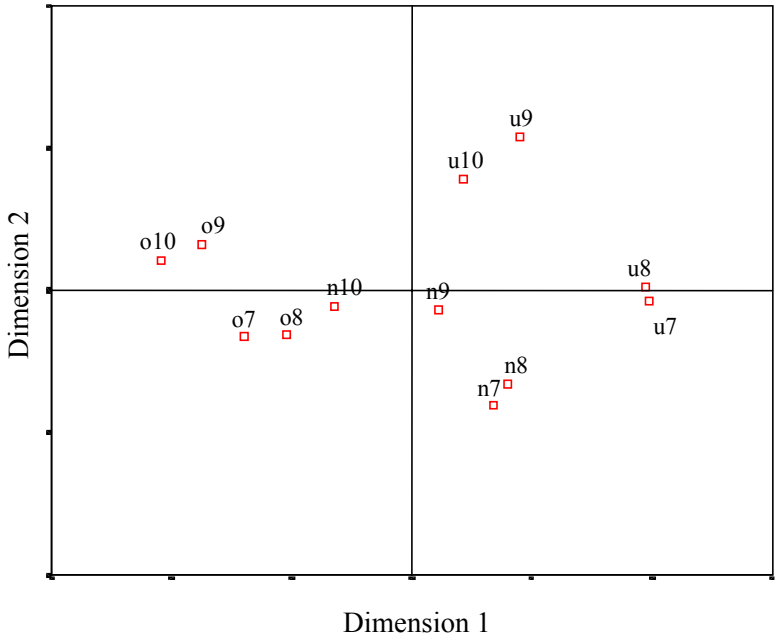


Figure 4

ALSCAL spatial map for: Attractive (African American males: n = 31)

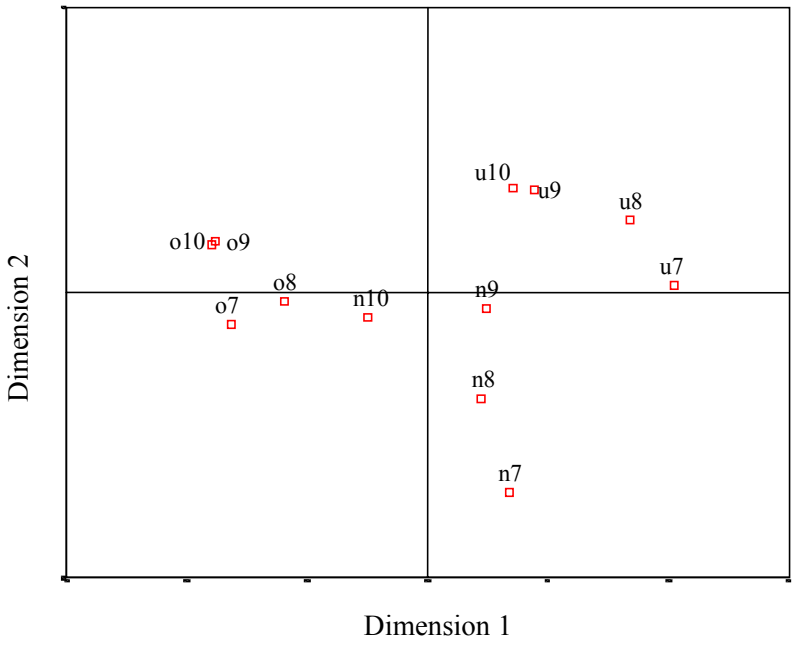


Figure 5

ALSCAL spatial map for: Attractive (African American females: n = 58)

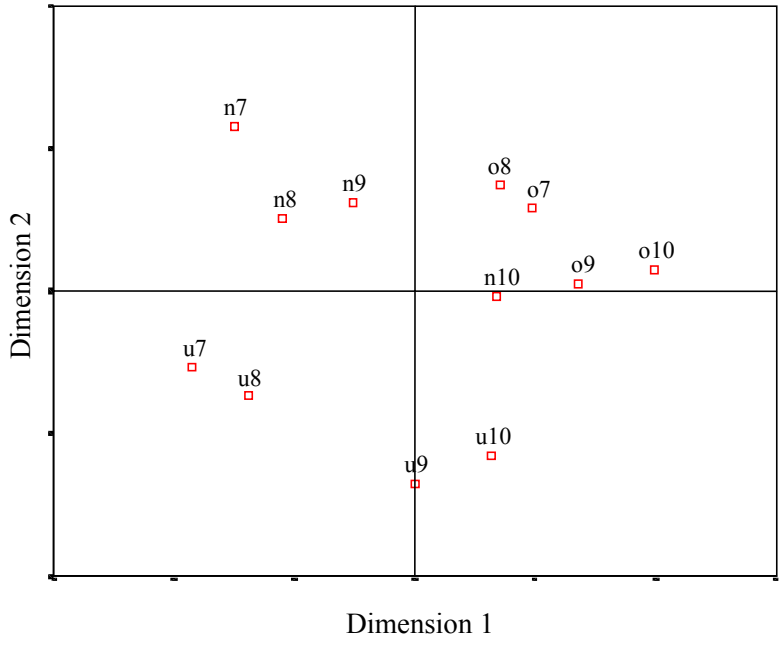


Figure 6

ALSCAL spatial map for: Attractive (Hispanic males: n = 32)

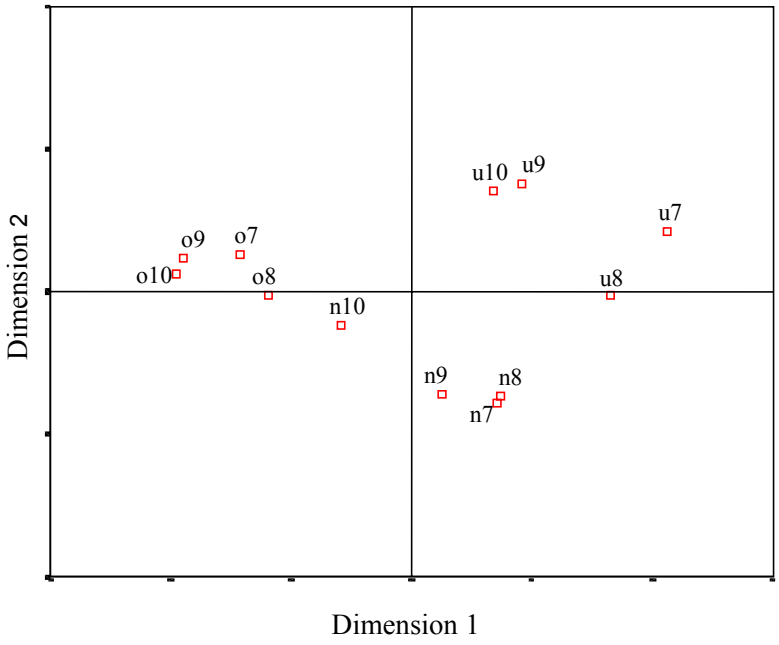


Figure 7

ALSCAL spatial map for: Attractive (Hispanic females: n = 39)

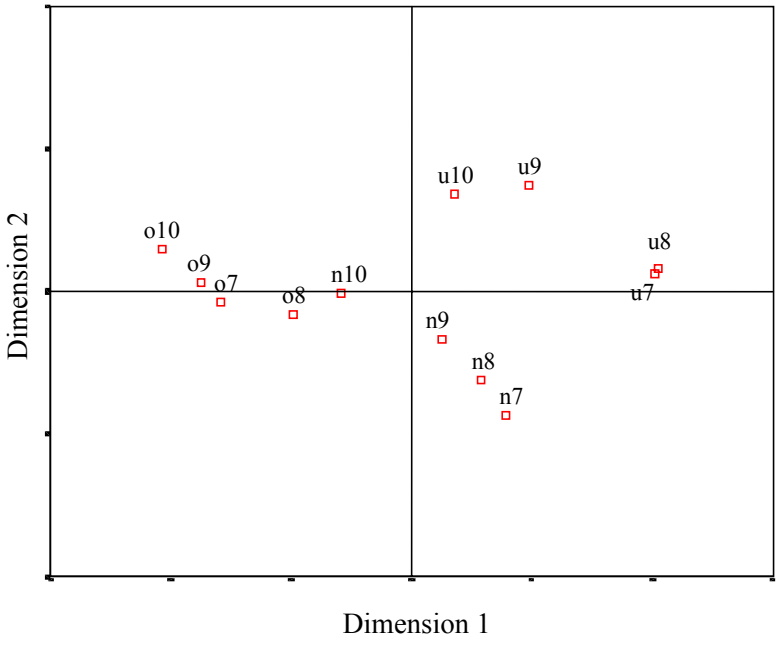


Table 43

Summary of ALSCAL solution for: Sexy

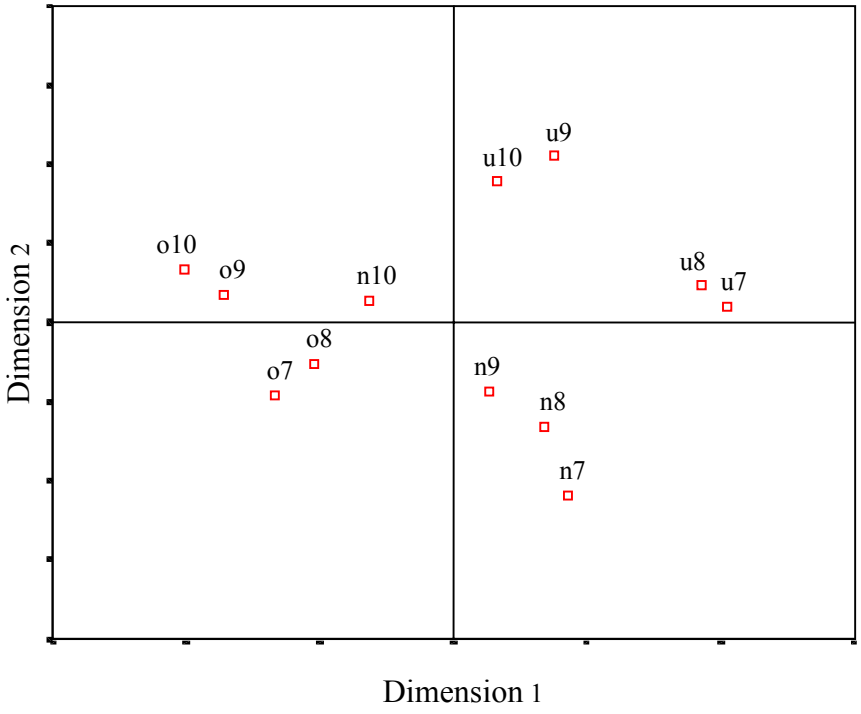
Subject Group	n	Iterations	s-stress	R^2
All Subjects	263	4	.01367	.99801
Caucasian males	49	5	.01232	.99754
Caucasian females	58	6	.01452	.99271
African American males	28	5	.03472	.98915
African American females	58	4	.05159	.97835
Hispanic males	32	5	.02620	.99153
Hispanic females	38	6	.02132	.99431

As can be seen from Figure 8, the figure shapes were configured into approximately 5 clusters, consisting of 1) figures n7, n8, and n9, 2) u7 and u8, 3) u9 and u10, 4) o7, o8 and n10, and lastly 5) figures o9 and o10. Figures u7 and u8 were rated as most sexy, being ranked within the top third of the ratings by 80% and 79% of subjects, respectively. Figures n7, n8, and n9 were also rated favorably as 58%, 48%, and 26% of subjects rated them in the top third, respectively, while 38%, 47%, and 69% of subjects placed them among the second third of the rankings. Figures u9 and u10 had more dispersed ratings but were generally ranked favorably. Forty-six percent (46%) of subjects placed figure u9 in the top third of the rankings and 33% placed it in the middle third. Likewise, 32% of subjects rated figure u10 in the top third and 42% placed it in the middle third of the rankings. Figures n10, o7 and o8 were most often placed in the bottom

two-thirds of the ratings as they were rated in the middle third by 60%, 28%, and 34% of subjects and as belonging to the bottom third by 33%, 64%, and 58%, respectively. Lastly, figures o9 and o10 were consistently rated least sexy, being ranked within the bottom third by 80% and 93% of subjects, respectively.

Figure 8

ALSCAL spatial map for: Sexy (All subjects: n = 263)



A frequency analysis showed that, as expected, results for sexual attractiveness were fairly congruent with those for the Attractiveness variable. While most subjects found figures u7 and u8 to be most sexy, African American women did not. Whereas between 80% and 89% of the other subjects placed figure u7 in the top of the ratings,

only 67% of African American women rated it in this way. Likewise, 59% of African American women placed figure u8 in the top third, compared with between 74% and 93% of subjects from the other groups. Thirty-nine percent (39%) of African American men and 22% of African American women placed figure u9 among the top of the ratings, compared to between 49% and 60% of Caucasian and Hispanic subjects. Similarly, 39% of African American women placed figure u9 in the bottom of the rankings, compared with only 9% to 23% of subjects from the other groups. Figure u10 was also perceived negatively by African American women, as 47% of them judged it to lack sexiness, placing it in the bottom of the rankings, compared with only 16% to 25% of other subjects.

African Americans, particularly women, appeared to prefer the normal weight figures. African American women found figure n7 to be most sexy, as 73% placed it in the top third of the rankings, compared with 49% to 61% of the other subjects. Almost all subjects rated figure n7 favorably, as it was placed in the bottom third of the ratings by less than 8% of any subject group. Figure n8 was also perceived as fairly sexy, as subjects in all groups routinely placed it among the top and middle thirds of the ratings, and less than 9% of subjects rated it among the bottom third. Thirty-six percent (36%) of African American men and 42% of African American women placed figure n9 in the top of the rankings, compared to 15% to 26% of subjects from the other groups. Figure n10 received mixed reviews, being most often placed in the middle and bottom thirds by all subject groups, with no clear group differences.

African American women favored figure o7 more than the other subjects, as 18% placed it in the top third compared to less than 10% of subjects from the other groups. Similarly, whereas between 63% and 77% of the other subjects placed it in the bottom third, only 39% of African American women rated it this unfavorably. This trend was duplicated for figure o8, as only 33% of African American women placed it in the bottom of the rankings compared with 56% to 74% of the other subjects. All subjects judged figures o9 and o10 to lack sexiness, with no group differences emerging. Figures 9, 10, 11, 12, 13, and 14 show the spatial configurations for each subject group for the sexiness variable.

Family-oriented

Subjects were asked to rate the 12 figures with respect to "how family-oriented you would expect them to be (how committed to raising a family, being in a spousal relationship, interested in children)." Two hundred sixty-six (89.6%) of the 297 subjects provided usable data. Similar to the attractiveness and sexy variables, a two-dimensional proximity configuration for the family-oriented variable fit the data quite nicely, as evidenced by the s-stress and R^2 values in Table 44. Of the 6 subject groups, the two-dimensional solution fit the data for Hispanic males least well, although the R^2 value of .96 is still very high and well within acceptable limits.

Figure 9

ALSCAL spatial map for: Sexy (Caucasian males: n = 49)

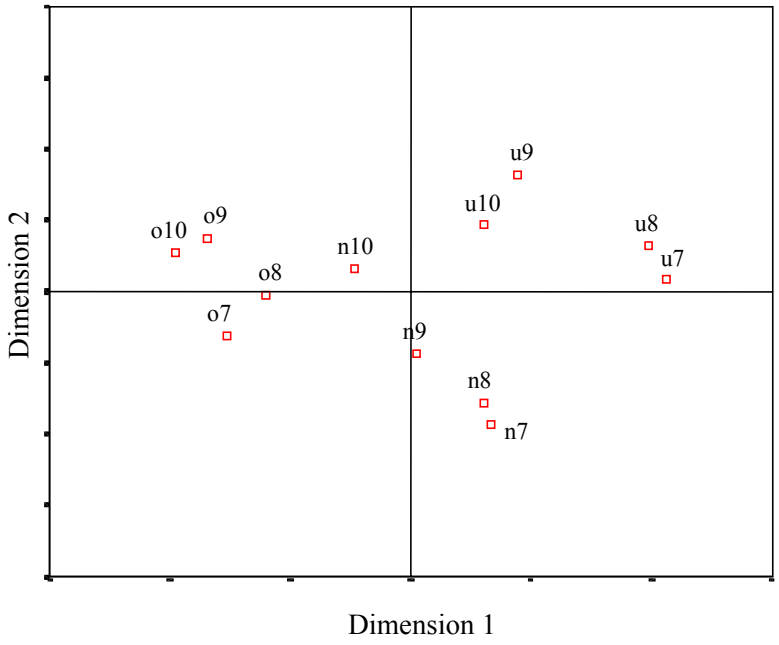


Figure 10

ALSCAL spatial map for: Sexy (Caucasian females: n = 58)

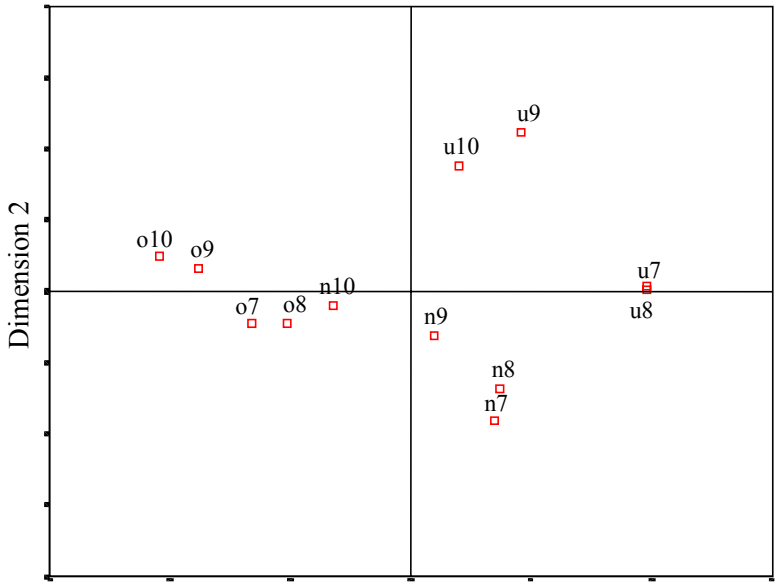


Figure 11

ALSCAL spatial map for: Sexy (African American males: n = 28)

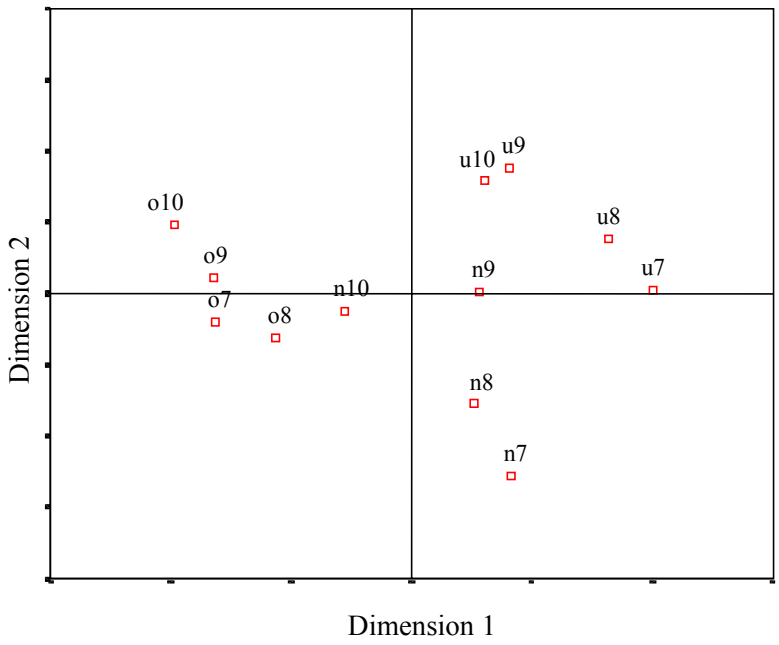


Figure 12

ALSCAL spatial map for: Sexy (African American females: n = 58)

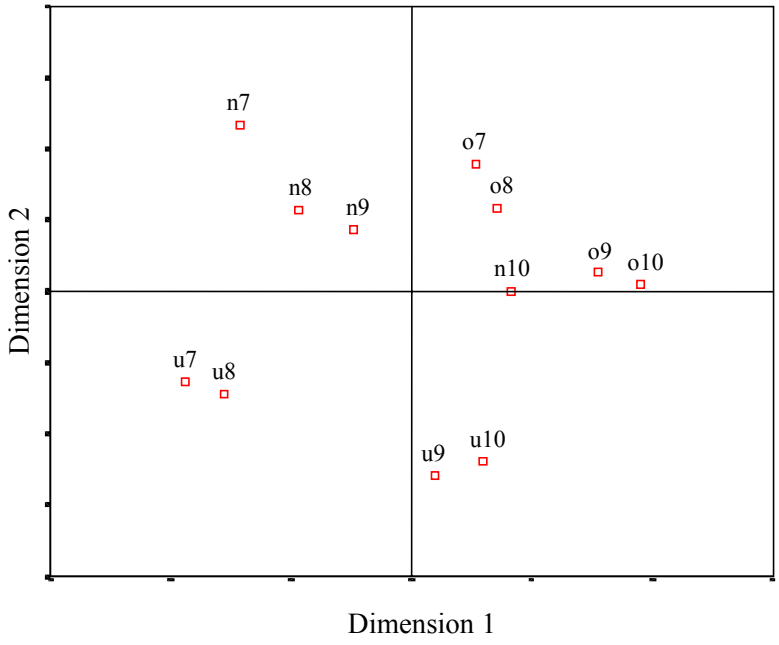


Figure 13

ALSCAL spatial map for: Sexy (Hispanic males: n = 32)

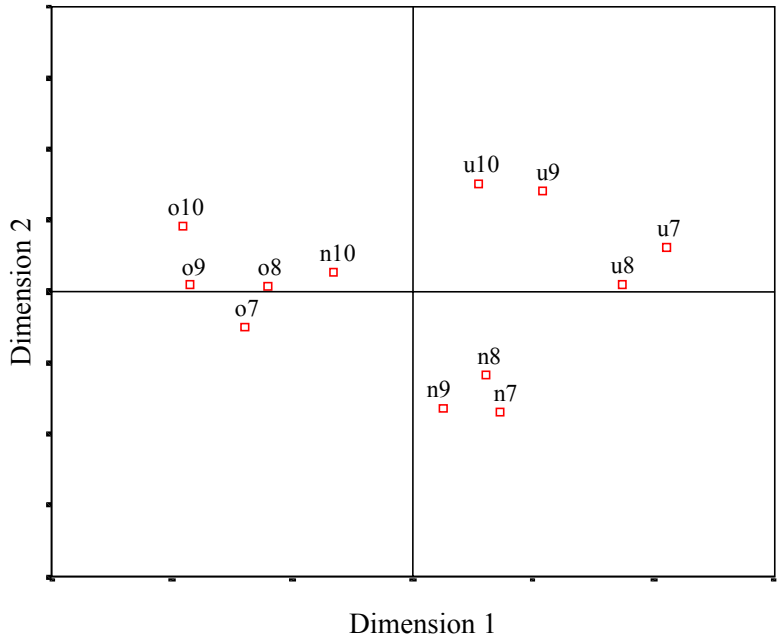


Figure 14

ALSCAL spatial map for: Sexy (Hispanic females: n = 38)

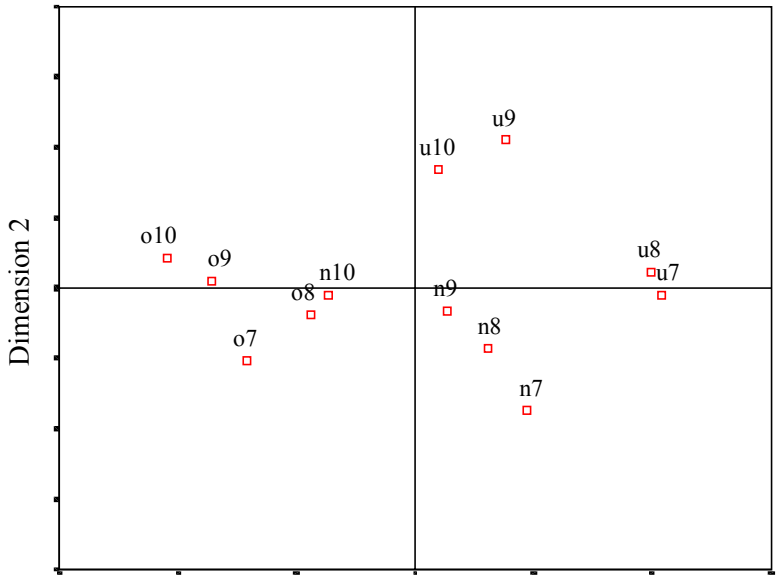


Table 44

Summary of ALSCAL solution for: Family-oriented

Subject Group	n	Iterations	s-stress	R^2
All Subjects	266	4	.02539	.99258
Caucasian males	51	5	.05158	.97590
Caucasian females	60	5	.04368	.98812
African American males	31	5	.05506	.97484
African American females	57	7	.04855	.98361
Hispanic males	31	6	.10750	.95517
Hispanic females	36	5	.05150	.98440

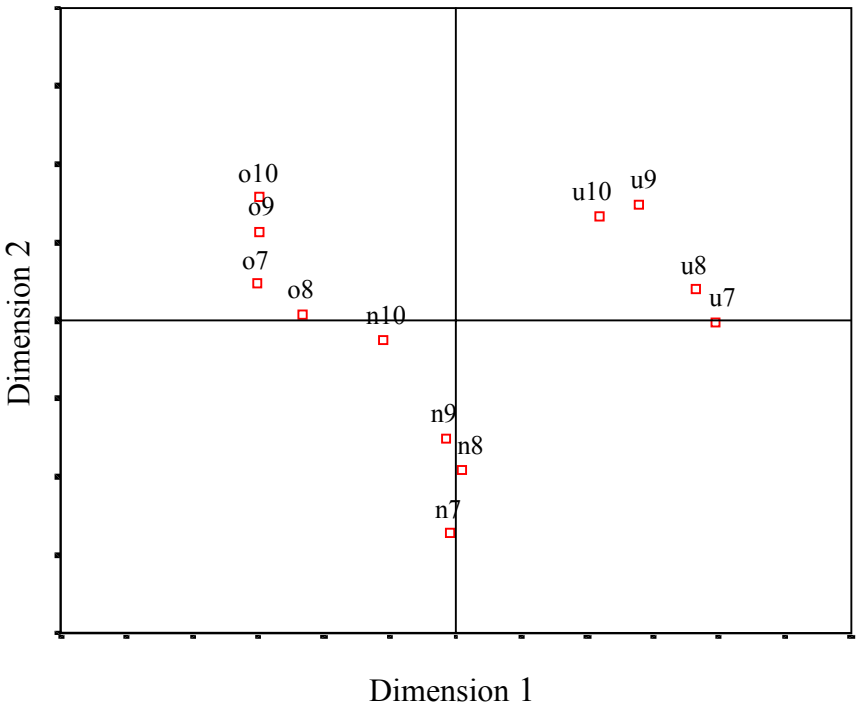
As can be seen from Figure 15, the figure shapes for the entire sample were grouped into 3 general clusters consisting of 1) the four underweight figures, 2) figures n7, n8, and n9, and 3) the four overweight figures. Figure n10 was equally distanced between figure n9 and figure o8, and could be considered equally similar to both.

Although not as clear as for the two previous variables, a frequency analysis shows obvious trends in subjects' perceptions of the figures. In general, the underweight figures were ranked as least family-oriented, normal weight figures were expected to be somewhat more family-oriented, and the overweight figures were rated as being most interested in children and raising a family. Figures u7, u8, u9, and u10 were placed in the bottom third of the rankings (least family-oriented) by 65%, 70%, 65%, and 54% of subjects, respectively. They were rated in the top third (most family-oriented) by between

12% (figure u8) and 18% (figure u10) of subjects. The normal weight figures' rankings were generally dispersed over the first two-thirds of the ratings, as only 16% (n10) to 23% (n7) of subjects placed them in the bottom third. Rather, figures n7, n8, n9, and n10 were ranked in the top third by 41%, 38%, 32%, and 32% of subjects and in the middle third of the ratings by 36%, 45%, 49%, and 52% of subjects, respectively. Approximately half of all subjects found figures o7, o8, o9, and o10 to be most family-oriented, as they were placed in the top third of the rankings by 49%, 51%, 51%, and 45% of subjects, respectively. They were ranked in the bottom third of the ratings by between 16% (o8) and 22% (o10) of subjects.

Figure 15

ALSCAL spatial map for: Family-oriented (All subjects: n = 266)



The underweight figures were expected to be least interested in families and raising children by all participants, with minimal subject group differences. Figures u7, u8, and u9 were placed within the bottom third of the rankings by approximately 50% to 75% of subjects, depending on group. African Americans appeared to judge figure u8 slightly more critically than the other groups, as only 3% and 6% of African American men and women, respectively, placed it in the top of the ratings compared with 11% to 20% of subjects from the other groups. Caucasian men appeared to rate figure u9 more favorably, as 24% of them placed it in the top of the rankings compared with between 6% and 16% of subjects from the other groups. Figure u10 was perceived to be slightly more family-oriented than the other underweight figures, as only 45% to 62% of subjects placed it in the bottom of the ratings.

The normal weight figures received more diverse ratings, with no consistent group trends identified. Between 29% and 51% of subjects rated figure n7 in the top third, 26% to 45% placed it in the middle third, and 20% to 26% of subjects ranked it in the bottom third. Figure n8 was rated slightly more favorably as 26% to 53% placed it in the top third and 38% to 58% placed it in the middle third, whereas only 9% to 21% of subjects placed it in the bottom third of the rankings. Hispanic males appeared to prefer figure n8 as 53% of them placed it in the top of the rankings compared to between 26% and 40% of subjects from the other groups. Figures n9 and n10 were judged quite similarly and somewhat favorably, being most often ranked in the top two-thirds. Between 26% and 47% of subjects placed figure n9 in the top of the rankings, and 40% to 60% placed it within the middle third of the ratings. African American women tended to

rate figure n9 less favorably, as 29% placed it in the bottom of the rankings compared to between 14% to 19% of the other subjects. Figure n10 was judged in a similar fashion, with 25% to 38% of subjects placing it in the top of the rankings and between 43% to 63% ranking it among the middle third with respect to commitment to family.

As noted above, the overweight figures were rated most favorably in terms of commitment to family. Figure o7 was placed in the top third of the rankings by 44% to 53% of subjects, depending on group. Figure o8 was also expected to be quite family-oriented, as it was ranked in the top third by 35% to 65% of subjects and placed within the middle third by 21% to 50% of subjects. Figure o9 was generally rated favorably, being placed in the top of the rankings by 46% to 65% of all subjects, except by Caucasian men, only 29% of whom rated it in this way. Figure o10 was judged most favorably by African American men and women, 71% and 54% of whom, respectively, placed it within the top of the ratings compared to 30% to 42% of subjects from the other groups. It was placed among the middle third by between 25% and 54% of subjects, depending on group.

Figures 16, 17, 18, 19, 20, and 21 show the 'family-oriented' spatial configurations for the individual subject groups. The configurations for each group indicate that, in general, subjects perceived the figures to belong to 1 of 3 or 4 clusters. In some instances, figure n10 was equally distant between the normal weight and overweight figures, indicating that it was found to be similar to both. This appears to be the case for the 3 female subject groups.

Figure 16

ALSCAL spatial map for: Family-oriented (Caucasian males: n = 51)

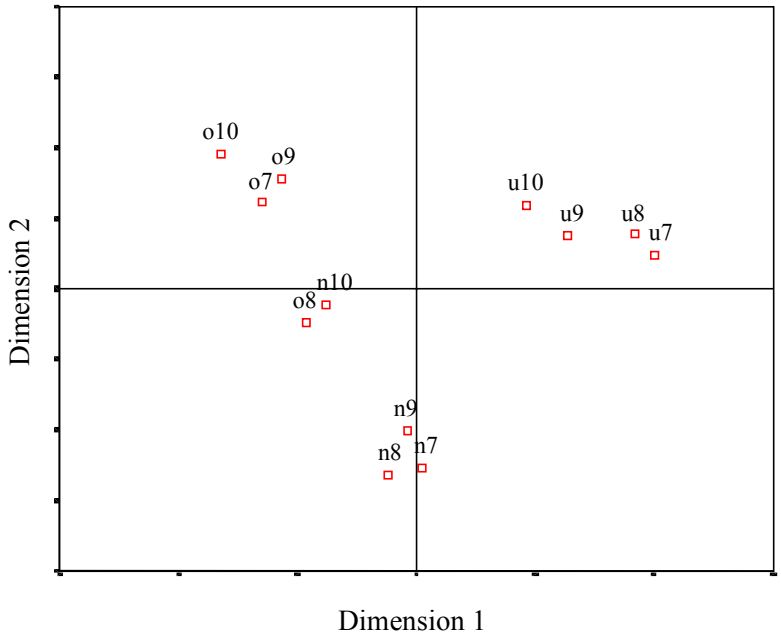


Figure 17

ALSCAL spatial map for: Family-oriented (Caucasian females: n = 60)

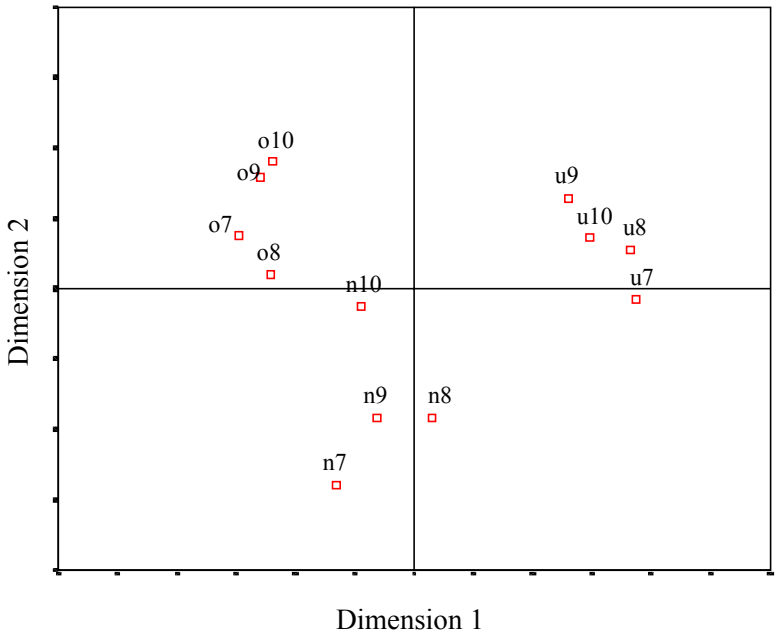


Figure 18

ALSCAL spatial map for: Family-oriented (African American males: n = 31)

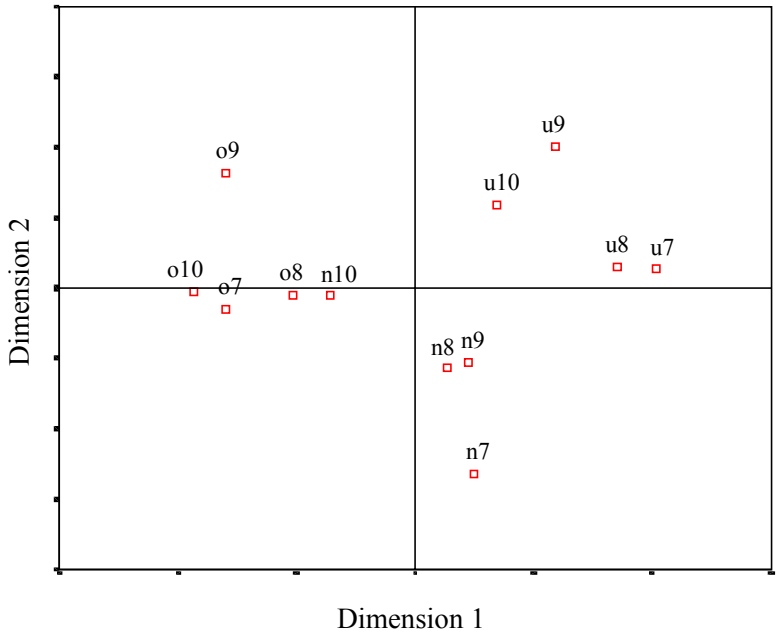


Figure 19

ALSCAL spatial map for: Family-oriented (African American females: n = 57)

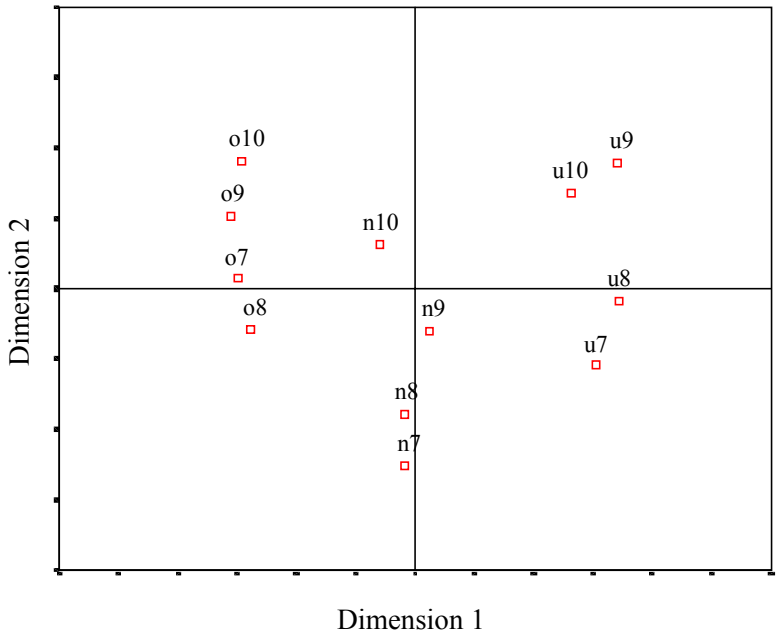


Figure 20

ALSCAL spatial map for: Family-oriented (Hispanic males: n = 31)

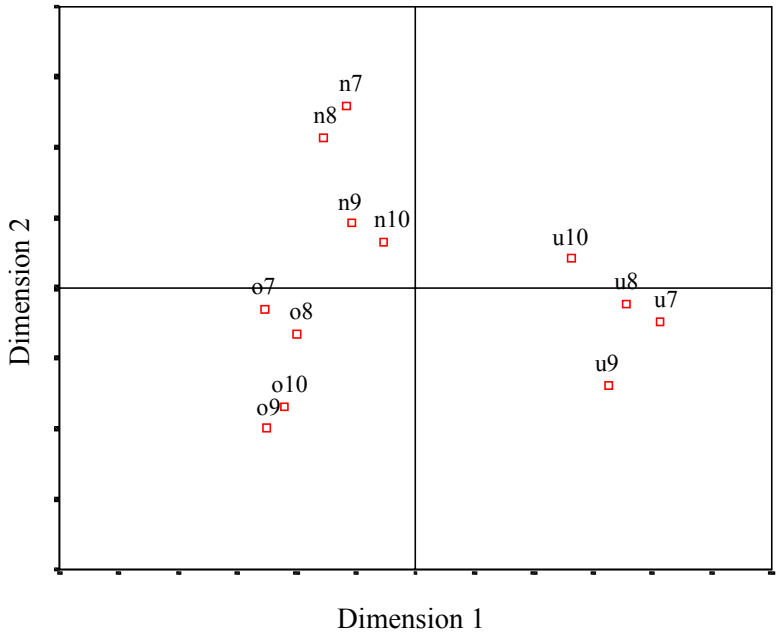
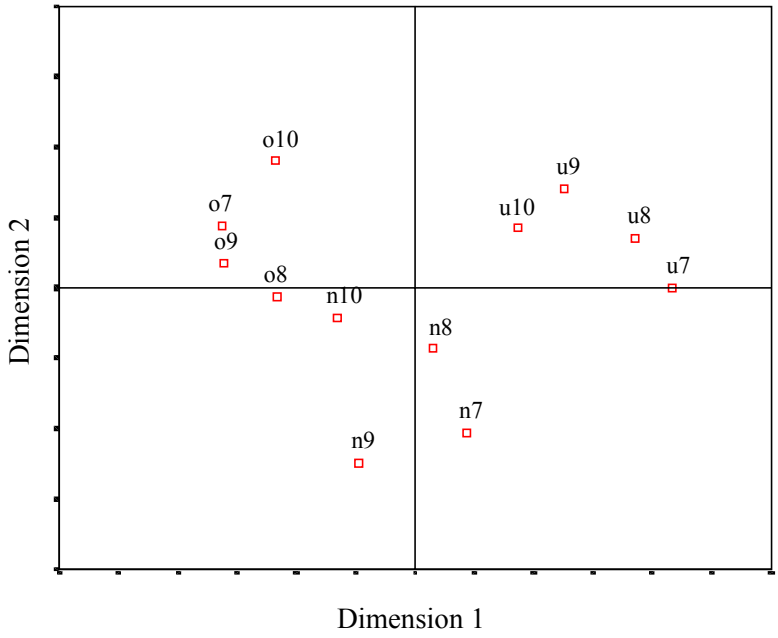


Figure 21

ALSCAL spatial map for: Family-oriented (Hispanic females: n = 36)



Faithful

Subjects were asked to rate the 12 figures with respect to "how faithful you would expect them to be (how committed to a relationship, how unlikely to cheat on their spouse or partner)." Two hundred fifty-nine (87.2%) of the 297 subjects provided usable ordinal data. The two-dimensional proximity configuration summarized the faithfulness data quite well, as evidenced in Table 45 by the s-stress values that all fall below .073, and R^2 values that are all above .95.

Table 45

Summary of ALSCAL solution for: Faithful

Subject Group	n	Iterations	s-stress	R^2
All Subjects	259	6	.02120	.99373
Caucasian males	53	5	.03089	.98440
Caucasian females	59	8	.02361	.99512
African American males	27	5	.06159	.96829
African American females	51	5	.07213	.96144
Hispanic males	29	5	.04081	.98487
Hispanic females	40	4	.03192	.98702

As can be seen from Figure 22, the figure shapes for the entire sample were grouped into 3 general clusters consisting of 1) the four underweight figures, 2) figures n7, n8, and n9, and 3) the four overweight figures. Figure n10 was more closely related to the overweight figures than the normal weight cluster.

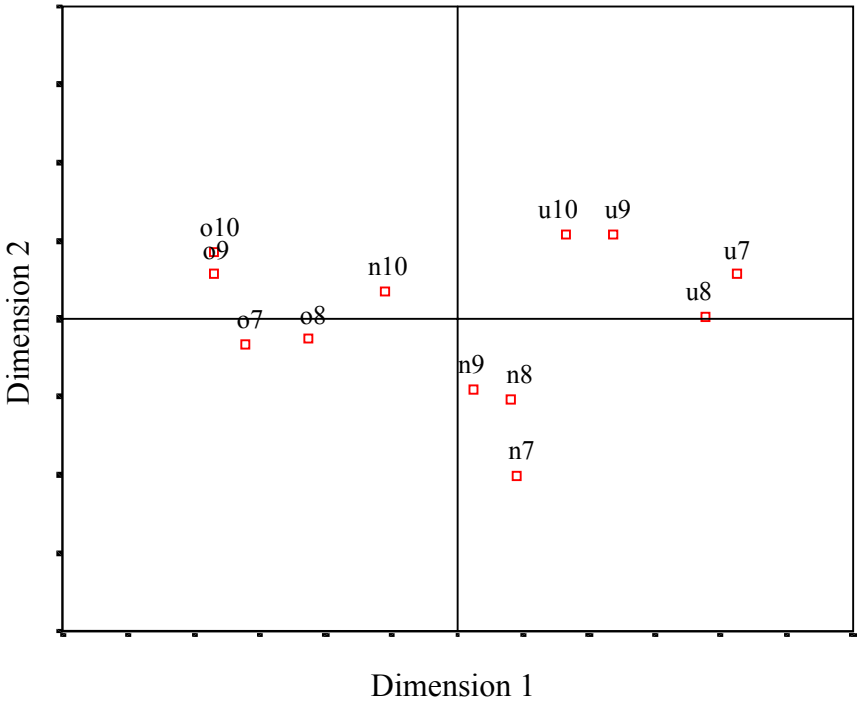
A frequency analysis indicates that the overweight figures were consistently rated as most faithful, as figures o7, o8, o9, and o10 were placed in the top third of the rankings by 64%, 55%, 68%, and 69% of all subjects, respectively. To further emphasize this, it was found that the overweight figures were placed in the top two-thirds of the ratings by between 86% to 91% of subjects.

Contrary to the overweight figures, the underweight figures were judged to be least faithful. This was particularly true for figures u7 and u8, but less so for figures u9 and u10. Figures u7, u8, u9, and u10 were placed in the bottom third of the rankings by 77%, 74%, 57%, and 49% of subjects, and in the middle and bottom thirds combined by 90%, 91%, 89%, and 88% of subjects, respectively.

The normal weight figures were placed more equally throughout the ratings, most commonly being ranked in the middle third. Figures n7, n8, n9, and n10 were placed in the middle third by 42%, 54%, 57%, and 51% of subjects respectively. Between 20% to 33% of subjects placed the four figures in the top third of the ratings, while between 17% to 34% placed them in the bottom third of the rankings. The spatial configuration and rankings show that figure n10 was judged to be more similar to the overweight figures, which were consistently rated as being more faithful.

Figure 22

ALSCAL spatial map for: Faithful (All subjects: n = 259)



Figures 23, 24, 25, 26, 27, and 28 show the spatial configurations for the individual subject groups. All participants expected the overweight figures to be faithful, with minimal variation between subject groups. This was evidenced by the finding that 70% to 97% of subjects placed the four overweight figures within the top two-thirds of the ratings, depending on subject group and figure shape. Figure o7 was judged quite favorably with respect to faithfulness as it was ranked within the top third of the ratings by 57% to 74% of subjects. Similarly, figure o8 was placed in the top third by between 50% and 70% of subjects. Figure o9 was rated most positively by African American men, as 87% of them ranked it within the first third compared with 60% to 73% of subjects

from the other groups. Lastly, figure o10 was placed within the top of the rankings by 61% to 77% of subjects, depending on group.

The normal weight figures were typically rated more diversely than the overweight and underweight figures, generally falling in the middle of the rankings. Between 17% to 32% of subjects placed figure n7 in the top third, 38% to 53% rated it in the middle third, and 29% to 40% of subjects rated it in the bottom third, depending on subject group. Figure n8 was ranked similarly, as between 12% and 25% placed it in the top third, 44% to 62% ranked it in the middle third, and 19% to 32% placed it in the bottom third of the faithfulness rankings. Figure n9 was placed in the middle third of the ratings by between 49% and 71% of subjects. African American and Hispanic males tended to rate it less favorably than the others, as 7% and 9% of these groups, respectively, placed it in the top third of the rankings, compared to between 20% to 26% of subjects from the other groups. Figure n10 also received diverse ratings, but was judged more favorably than the other normal weight figures. Between 20% and 40% of subjects placed it in the top third, and 43% to 60% ranked it among the middle third. Between 9% and 23% of subjects placed it in the bottom third, which is a lower percentage than was received by the other three normal weight figures.

As noted above, the underweight figures were perceived to be least faithful, as they were placed within the last two-thirds of the ratings by between 76% and 97% of subjects, depending on the figure. Figure u7 was placed in the bottom third by 66% to 84% of subjects. Hispanic males judged the figure slightly more favorably than the other participants, as 24% of them placed it within the top of the rankings compared with 3% to

14% of the other subjects. Likewise, figure u8 was placed within the bottom of the rankings by between 65% and 87% of subjects, depending on group. Figures u9 and u10 received more variable distributions, but were still generally rated as less faithful than the overweight and normal weight figures. Between 54% and 57% of most subjects placed figure u9 in the bottom third, with the exception of Caucasian and African American men, 67% and 45% of whom rated the figure in this way. Figure u10 was more evenly distributed among the groups as it was ranked within the bottom third by 39% to 55% of subjects.

Emotionally stable

All subjects were asked to rate the figures as to "how emotionally stable you would expect them to be (how able to handle and express their emotions appropriately and effectively, unlikely to exhibit frequent emotional tirades)." Two hundred sixty-one (87.9%) of the 297 subjects provided usable responses. Proximity matrices and two-dimensional solutions were generated for the entire sample and each subject group. The proximities and spatial map solutions summarized the data quite well, as evidenced by the s-stress and R^2 values listed in Table 46. Figure 29 shows the spatial configuration for the entire sample.

Figure 23

ALSCAL spatial map for: Faithful (Caucasian males: n = 53)

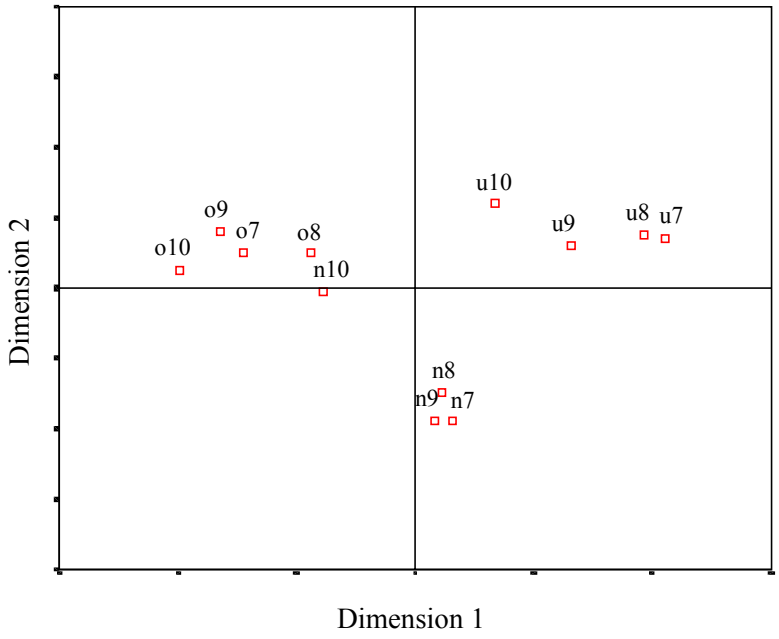


Figure 24

ALSCAL spatial map for: Faithful (Caucasian females: n = 59)

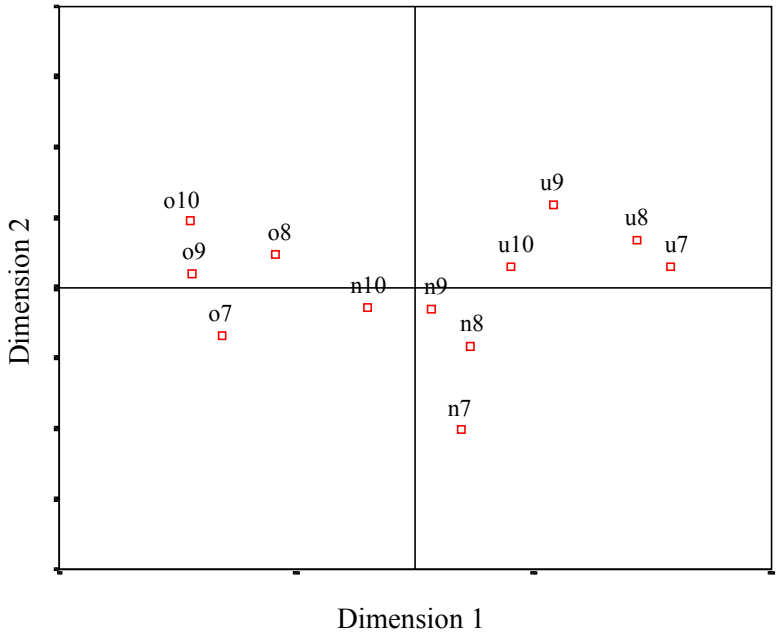


Figure 25

ALSCAL spatial map for: Faithful (African American males: n = 27)

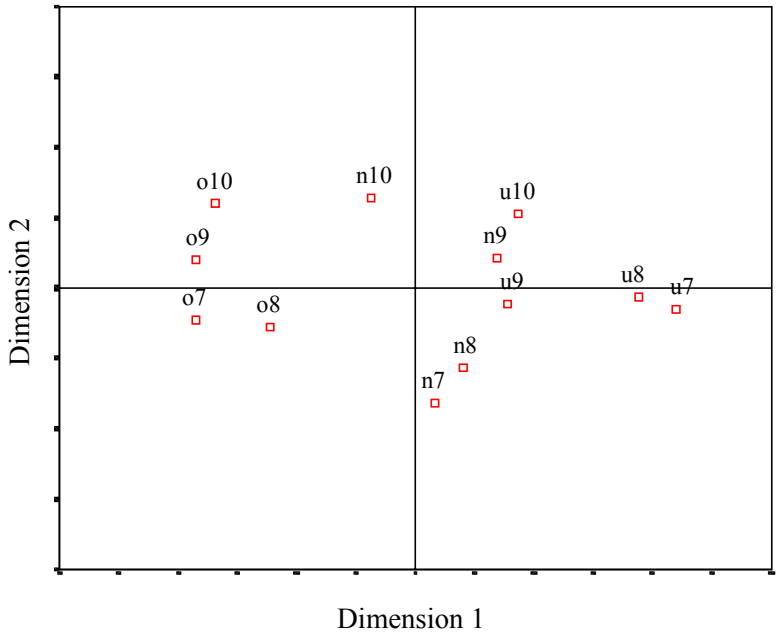


Figure 26

ALSCAL spatial map for: Faithful (African American females: n = 51)

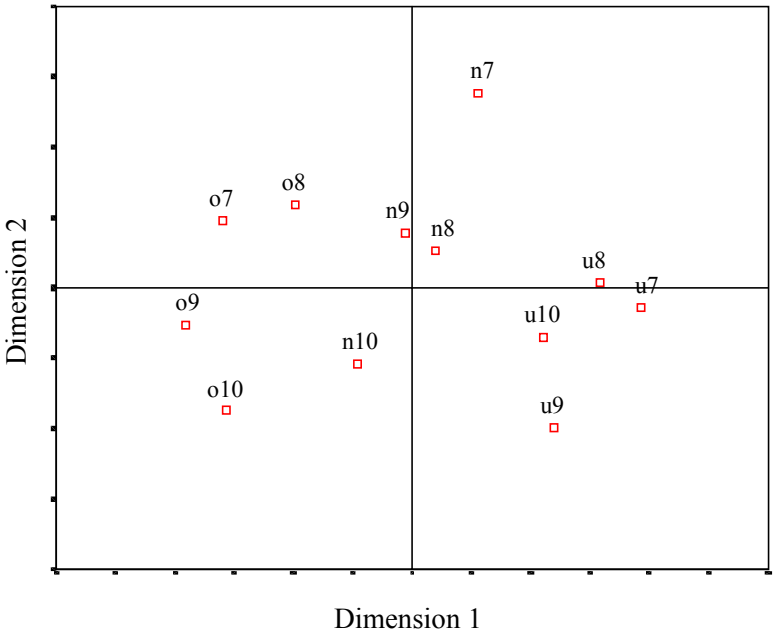


Figure 27

ALSCAL spatial map for: Faithful (Hispanic males: n = 29)

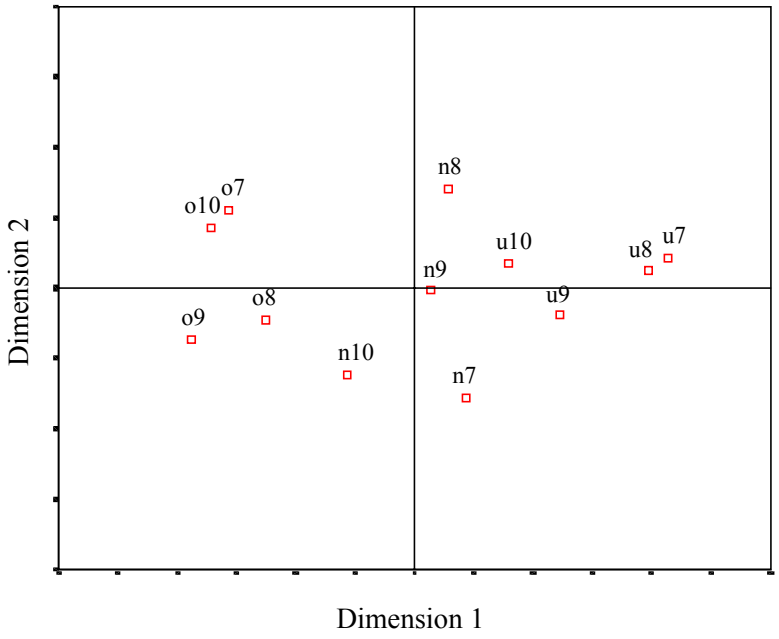


Figure 28

ALSCAL spatial map for: Faithful (Hispanic females: n = 40)

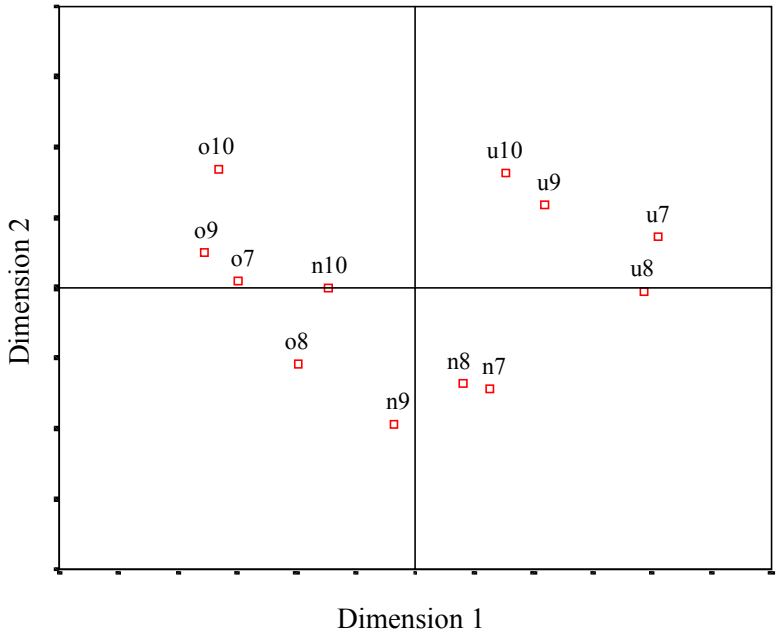


Table 46

Summary of ALSCAL solution for: Emotionally stable

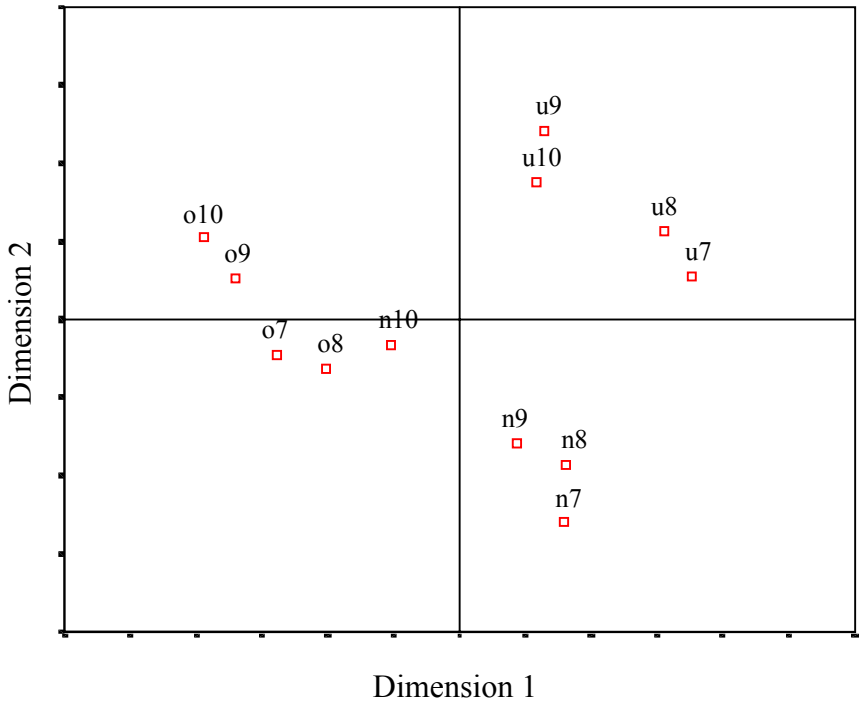
Subject Group	n	Iterations	s-stress	R^2
All Subjects	261	4	.03690	.98899
Caucasian males	48	4	.08481	.95569
Caucasian females	63	5	.07019	.97523
African American males	25	6	.04875	.97409
African American females	55	4	.07710	.96607
Hispanic males	32	5	.07960	.96360
Hispanic females	38	4	.05290	.97835

A frequency analysis of the total sample showed that figures u7 and u8 were rated as more emotionally stable than the other underweight figures, as 53% and 47% of subjects placed them in the top third of the rankings, and 21% and 28% placed them within the bottom third, respectively. Figure u9 received evenly dispersed ratings, with 32% of the sample placing it in the top third, 32% in the middle third, and 36% in the bottom third. Figure u10 was judged similarly, as 32% ranked it in the top third, 39% in the middle third, and 29% of subjects placed it in the lower third of the rankings. The normal weight figures, particularly figures n7, n8, and n9, were generally rated as the most emotionally stable, as they were placed within the top of the ratings by 56%, 49%, and 40% of subjects, respectively. Between 84% and 90% of subjects placed the three figures within the first two-thirds of the rankings, providing further evidence that they

were viewed favorably. Figure n10 was judged less positively, as only 22% of subjects rated it in the top third, 49% ranked it in the middle third, and 30% placed it in the bottom third. The overweight figures were judged to be less emotionally stable than the others, as figures o7, o8, o9, and o10 were placed in the bottom of the rankings by 51%, 43%, 60%, and 68% of subjects, respectively. They were placed within the bottom two-thirds by between 78% and 88% of subjects depending on the figure.

Figure 29

ALSCAL spatial map for: Emotionally stable (All subjects: n = 261)



Results for the individual subject groups were generally in agreement with those for the entire sample. Figure u7 was rated favorably by all subjects, more so by Hispanic men, 71% of whom placed it among the top of the rankings compared with 45% to 56% of subjects from the other groups. It was placed among the bottom of the ratings by 9% to 29% of subjects. Figure u8 was also perceived as fairly emotionally stable, as between 46% and 58% of most subjects rated it among the top third and 20% to 28% placed it among the bottom third of the rankings. African American women were more critical of figure u8, as only 34% of them placed it among the top of the rankings and 43% judged it to belong to the bottom third. Figure u9 received a fairly even frequency distribution with no clear differences, as 23% to 46% of subjects rated it in the top third, 20% to 45% ranked it in the middle third, and 29% to 47% placed it in the bottom third. Figure u10 was also perceived in this way, as 31% to 43% of subjects placed it in the top third, 33% to 48% ranked it in the middle, and 20% to 43% placed it within the bottom third.

The normal weight figures were also expected to be quite emotionally stable, with no clear group differences evidenced. Between 42% and 65% of subjects placed figure n7 within the top third, 37% to 61% ranked figure n8 in the top third, and 29% to 48% of subjects placed figure n9 among the top third. The three figures were placed among the top two-thirds of the rankings by 84%, 86%, and 79% of subjects, respectively. Figure n10 received more even judgements, as 10% to 32% of subjects placed it in the top third, 39% to 60% ranked it in the middle third, and 19% to 39% placed it within the bottom third.

The overweight figures were generally perceived to lack emotional stability. Figure o7 was rated negatively by most subjects, as 42% to 57% placed it in the bottom of the rankings. African Americans rated the figure slightly more positively, as 29% of males and 31% of females placed it in the top third, compared to between 10% to 19% of Caucasian and Hispanic subjects. Figure o8 was also expected to lack emotional stability, as between 40% and 44% of Caucasian and Hispanic subjects placed it within the bottom third of the ratings. It was judged more negatively by African American men and more positively by African American women, 61% and 37% of whom, respectively, ranked it among the bottom third. Figures o9 and o10 were expected to be least emotionally stable and were most often placed among the bottom of the ratings. African American women judged the figures more positively than the other subjects, as 45% of them placed figure o9 in the bottom of the ratings compared with 59% to 69% of the other subjects. Similarly, only 46% of African American women placed figure o10 among the bottom third of the ratings, compared with 65% to 83% of subjects from the other groups.

Figures 30, 31, 32, 33, 34, and 35 show the 'emotional stability' ALSCAL spatial maps for the different subject groups.

Figure 30

ALSCAL spatial map for: Emotionally stable (Caucasian males: n = 48)

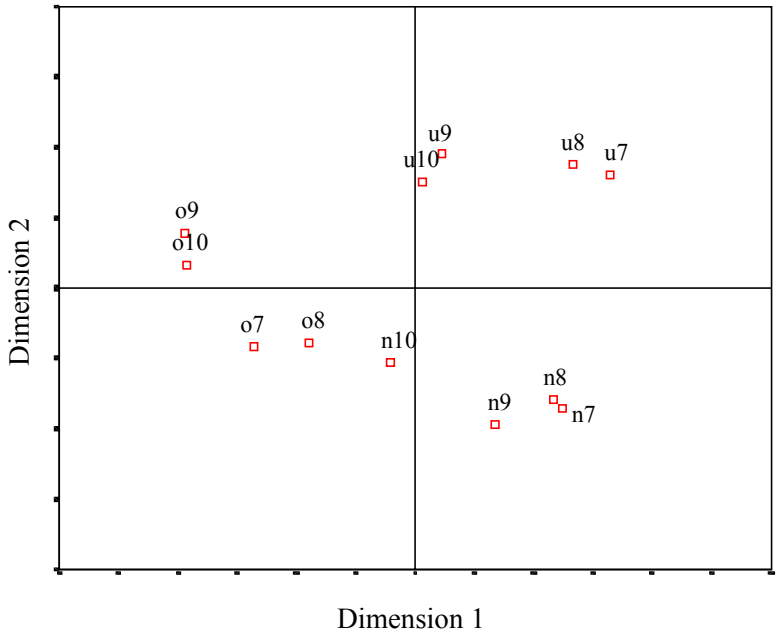


Figure 31

ALSCAL spatial map for: Emotionally Stable (Caucasian females: n = 63)

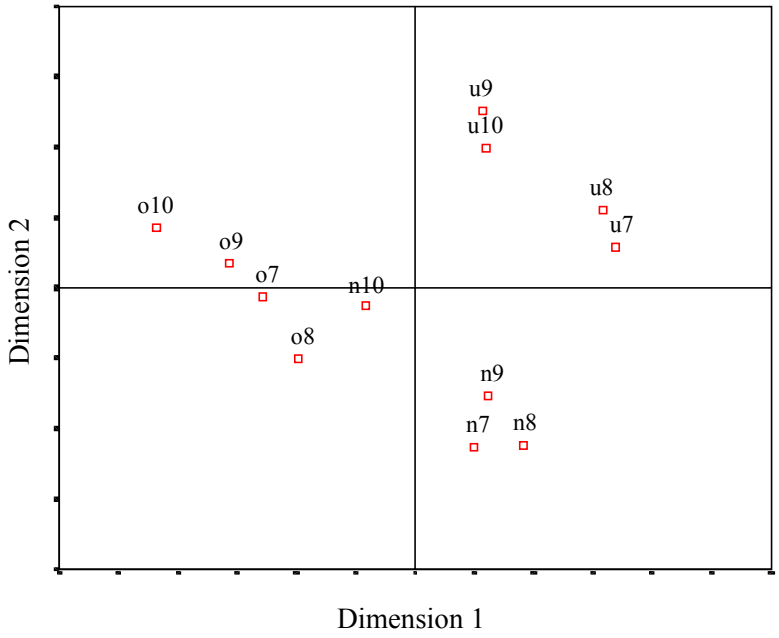


Figure 32

ALSCAL spatial map for: Emotionally stable (African American males: n = 25)

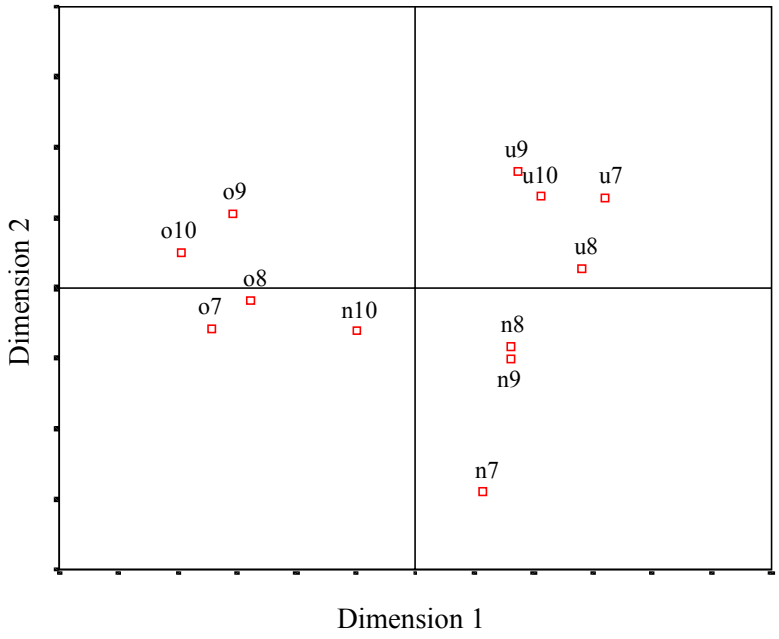


Figure 33

ALSCAL spatial map for: Emotionally stable (African American females: n = 55)

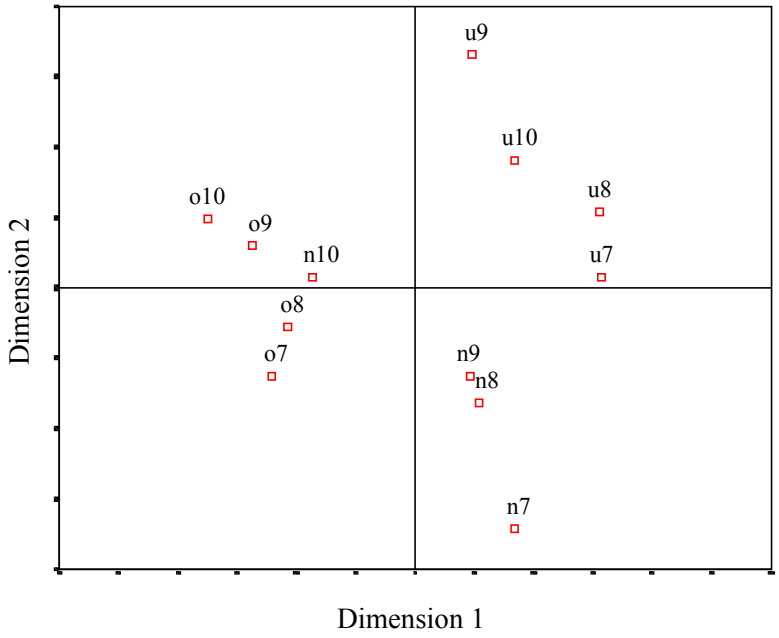


Figure 34

ALSCAL spatial map for: Emotionally stable (Hispanic males: n = 32)

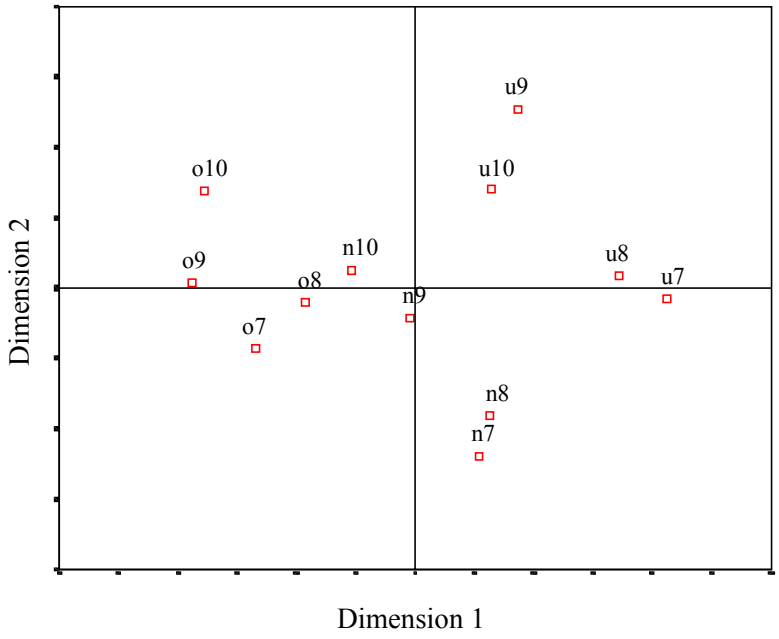
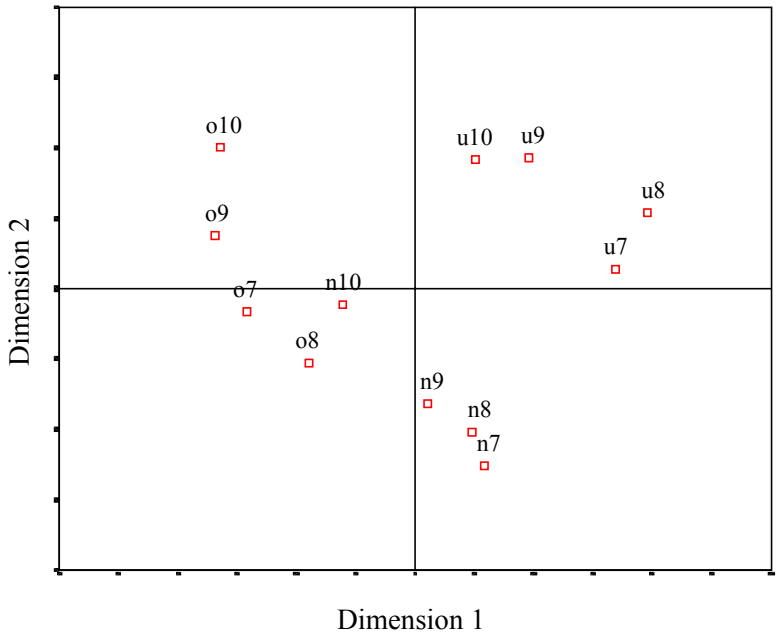


Figure 35

ALSCAL spatial map for: Emotionally stable (Hispanic females: n = 38)



Kind

All subjects were asked to rate the 12 figures with respect to "how kind, considerate, understanding of others, and thoughtful about other's needs" they would expect the figures to be. Two hundred sixty-four (88.9%) of the 297 subjects provided usable data. As can be seen from the s-stress and R^2 values in Table 47, the proximity matrices and spatial maps fit the kindness data quite well. Of the 6 subject groups, the two-dimensional solution fit the data for Hispanic males least well, although the R^2 value of .94 is still well within acceptable limits.

Table 47

Summary of ALSCAL solution for: Kind

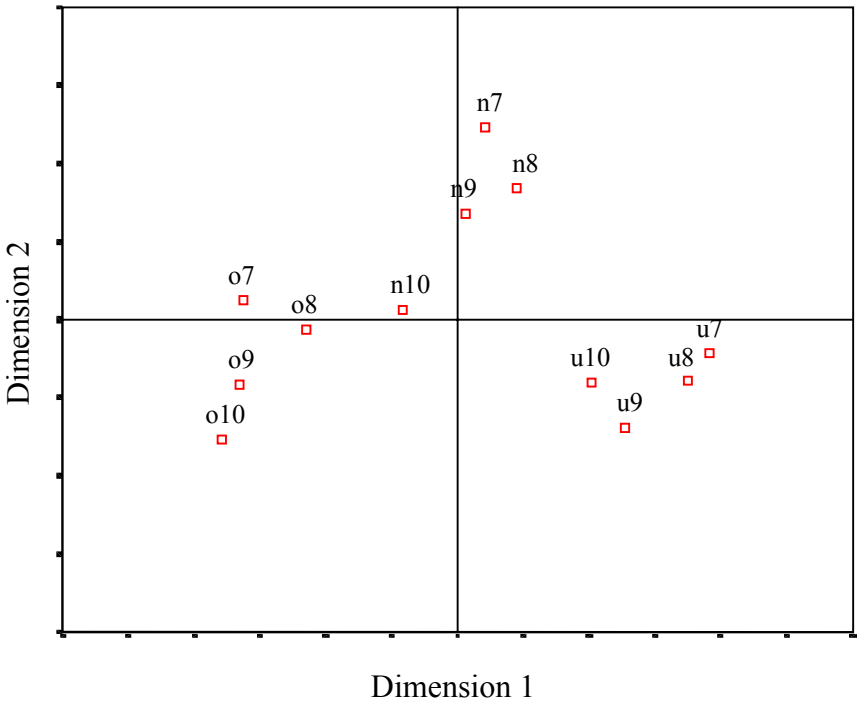
Subject Group	n	Iterations	s-stress	R^2
All Subjects	264	4	.02564	.99344
Caucasian males	51	5	.08228	.96883
Caucasian females	62	4	.05561	.97498
African American males	29	7	.04630	.98267
African American females	55	4	.05436	.97586
Hispanic males	29	7	.11397	.94434
Hispanic females	38	4	.06056	.97946

The spatial configuration in Figure 36 shows that the underweight figures were organized into a well-defined cluster. Although the normal weight and overweight figures were also grouped together, the cluster boundaries are less clear. Figure n10 appears to divide the remainder of the figures into 2 clusters, one comprised of figures n7, n8, and n9, and the other consisting of the four overweight figures. Thus, figure n10 could be considered equally similar to both figures n9 and o8.

A frequency analysis indicates the direction of rankings and apparent trends in figure preferences. In general, the underweight figures were ranked as least kind, normal weight figures were expected to possess some kindness, and the overweight figures were rated as being most kind and considerate of others. Figures u7, u8, u9, and u10 were placed in the bottom third of the rankings by 58%, 64%, 56%, and 53% of subjects and in the top third by only 17%, 15%, 14%, and 12%, respectively. Normal weight figures' rankings were more evenly dispersed, most often being placed in the middle third. Figures n7, n8, n9, and n10 were ranked in the top third by 39%, 31%, 28%, and 33% of subjects, in the middle third by 36%, 44%, 49%, and 49%, and in the bottom third by 25%, 25%, 23%, and 18% of subjects, respectively. Approximately half of all subjects expected figures o7, o8, o9, and o10 to be most kind, as they were placed in the top third of the rankings by 54%, 49%, 55%, and 51% of subjects, and in the bottom third by 20%, 19%, 21%, and 23% of subjects, respectively.

Figure 36

ALSCAL spatial map for: Kind (All subjects: n = 264)



As noted above, the underweight figures were perceived to be less kind than the normal and overweight figures. Figure u7 was perceived more critically by Hispanic females, 70% of whom placed it among the bottom of the rankings compared with 55% to 59% of subjects from the other groups. Figure u8 was assumed to be even less kind than figure u7, as between 60% and 71% of subjects placed it within the bottom third of the ratings. Figure u9 was also rated negatively, but slightly less so, as 40% to 67% of subjects ranked it in the bottom third. African American males judged the figure slightly more positively than the others, as 27% of them placed it in the top of the ratings compared with 9% to 15% of subjects from the other groups. Figure u10 received more

variable rankings, but was still expected to lack kindness, as between 34% and 65% of subjects ranked it among the bottom third and 82% to 91% of the rankings fell within the bottom two-thirds.

The rankings for the normal weight figures were diverse, but generally favorable with respect to kindness. Figure n7 was placed among the top of the ratings by between 29% and 49% of subjects. Figure n8 was rated this way by 17% to 38% of subjects. Between 16% to 36% of subjects placed figure n9 in the top third, and 23% to 38% ranked figure n10 in the top third. The four normal weight figures were rated among the top two-thirds of the rankings by approximately 68% to 88% of subjects, depending on the figure.

As mentioned above, the overweight figures were perceived to be most kind. Figures o7, o8, o9, and o10 were placed in the top third of the rankings by 49% to 60%, 44% to 52%, 46% to 61%, and 42% to 61% of subjects respectively, depending on subject group. The four figures were typically ranked within the first two-thirds of the ratings by between 68% and 91% of subjects, depending on figure shape. No clear subject group differences emerged.

Figures 37, 38, 39, 40, 41, and 42 show the ALSCAL spatial maps for 'kindness' for the individual subject groups.

Figure 37

ALSCAL spatial map for: Kind (Caucasian males: n = 51)

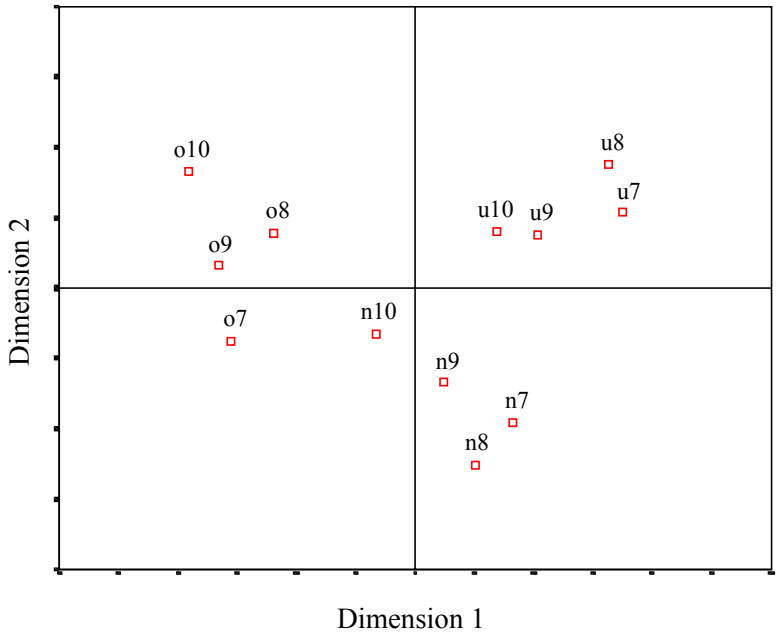


Figure 38

ALSCAL spatial map for: Kind (Caucasian females: n = 62)

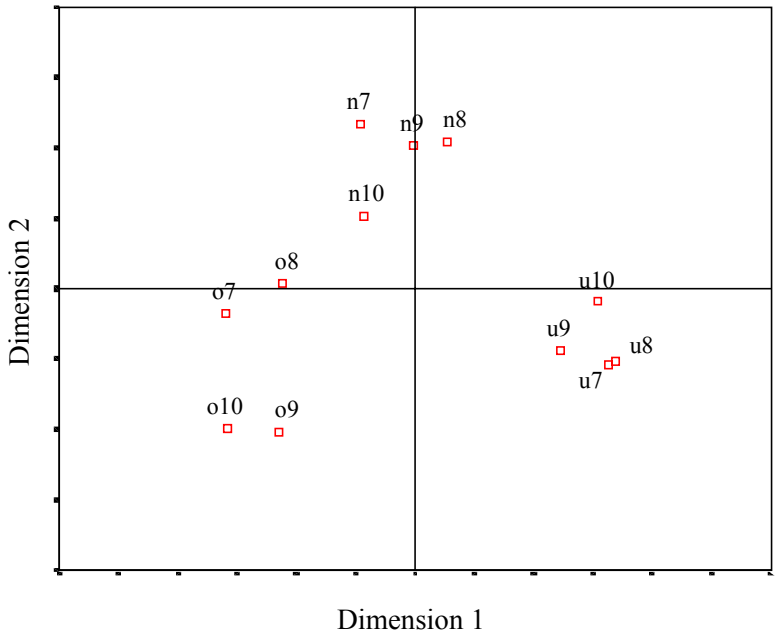


Figure 39

ALSCAL spatial map for: Kind (African American males: n = 29)

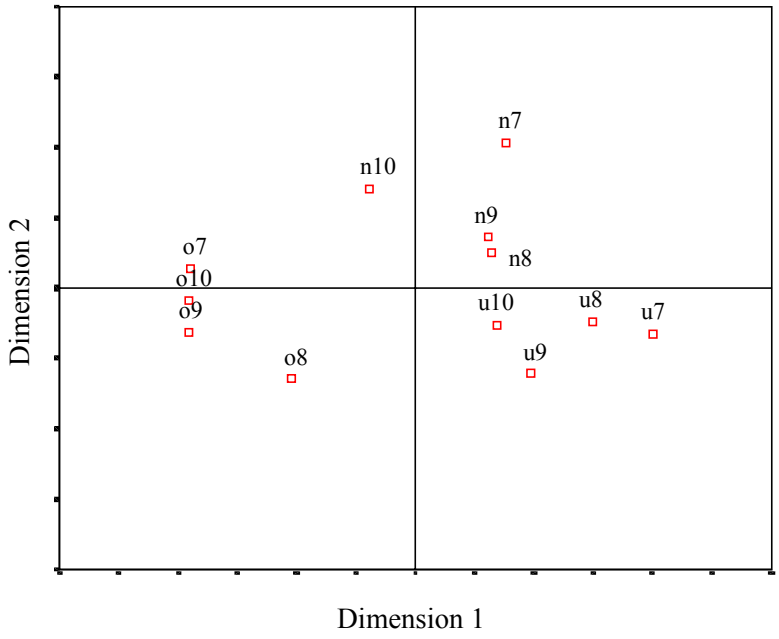


Figure 40

ALSCAL spatial map for: Kind (African American females: n = 55)

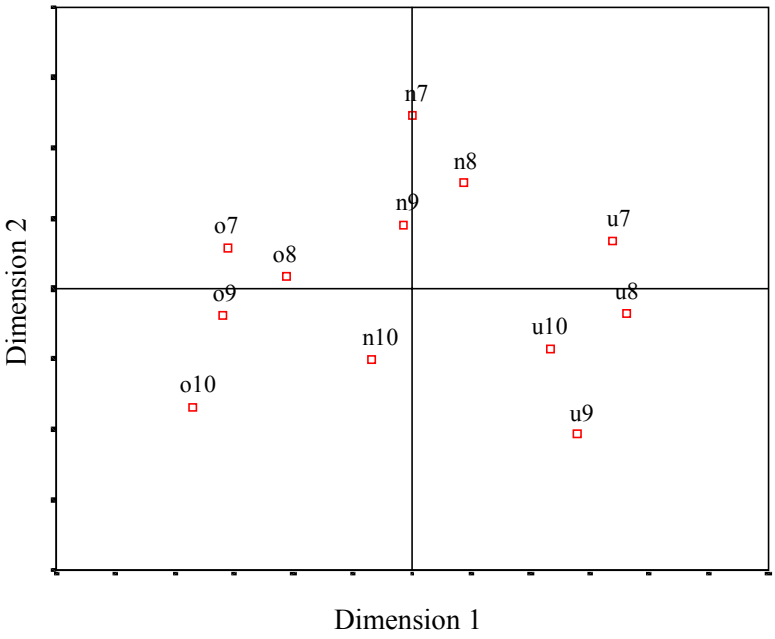


Figure 41

ALSCAL spatial map for: Kind (Hispanic males: n = 29)

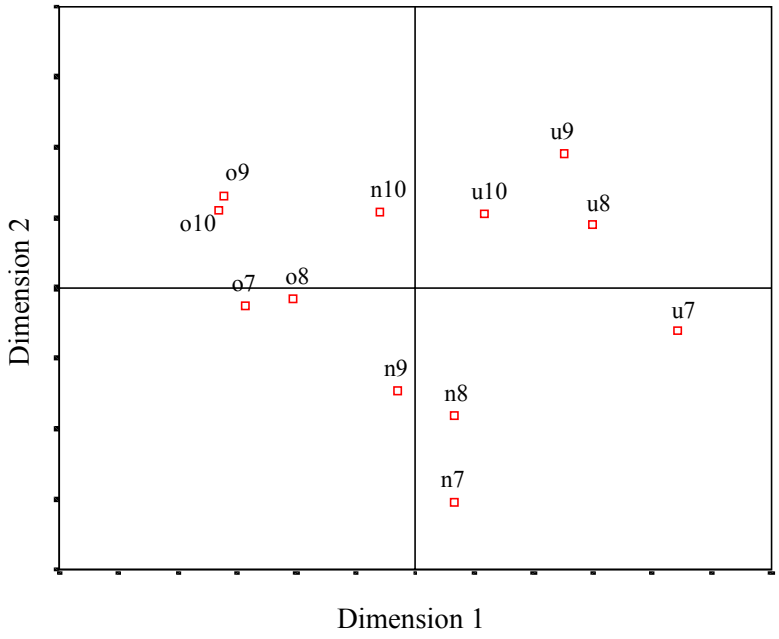
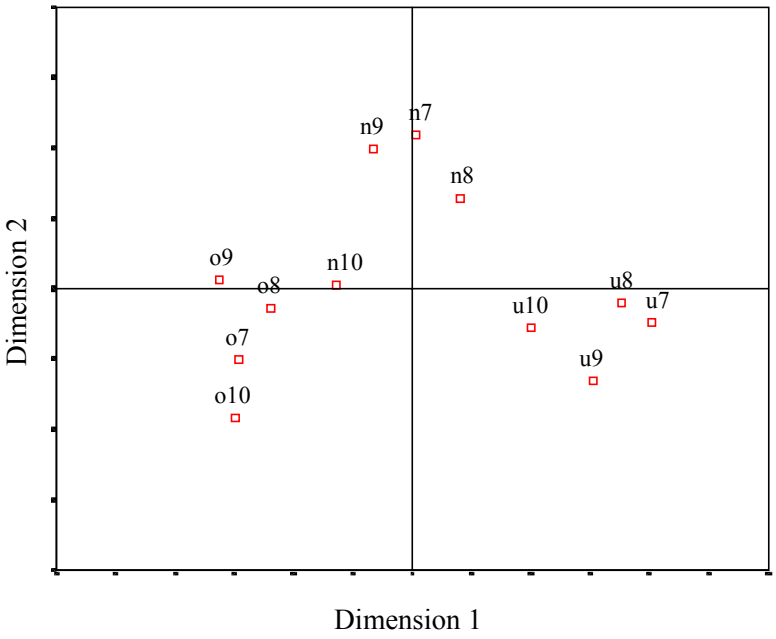


Figure 42

ALSCAL spatial map for: Kind (Hispanic females: n = 38)



Successful

All subjects rated the 12 figures with respect to how "successful" they thought they would be, that is, "how successful at their job," how likely they would be to "have a personally rewarding career," or how likely they might be to make a "large income." Two hundred seventy (90.9%) of the 297 subjects provided usable responses. Table 48 provides the s-stress and R^2 values for the two-dimensional proximity solutions for the total sample and each subject group, and indicates that the configurations represent the data quite well.

Table 48

Summary of ALSCAL solution for: Successful

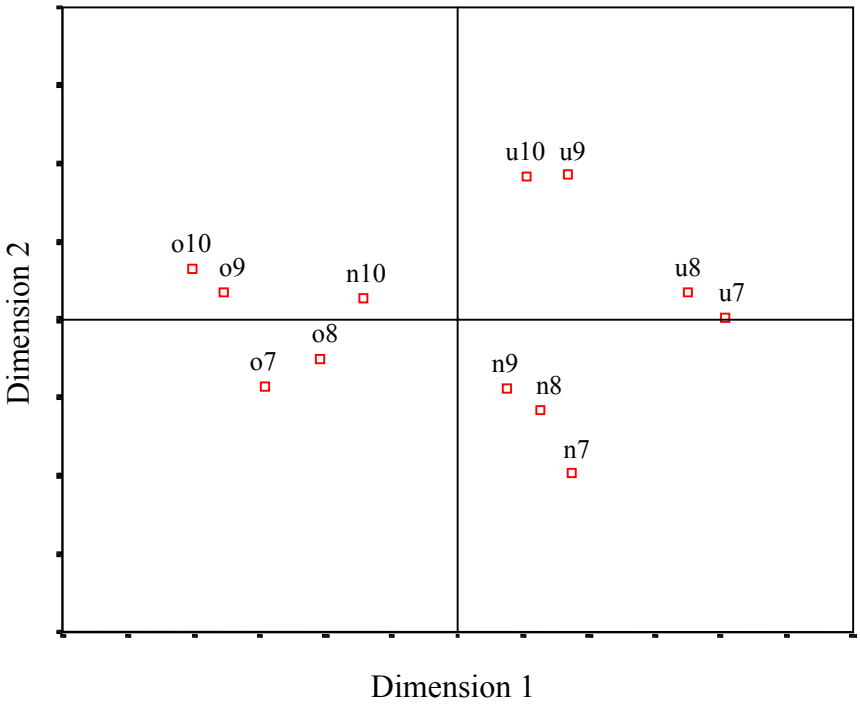
Subject Group	n	Iterations	s-stress	R^2
All Subjects	270	5	.02424	.99467
Caucasian males	54	4	.03138	.98422
Caucasian females	60	7	.04841	.98631
African American males	28	5	.07106	.97561
African American females	57	4	.08420	.95825
Hispanic males	33	6	.05928	.97570
Hispanic females	38	4	.05035	.97971

The spatial configuration for the entire sample is shown in Figure 43, and indicates that the figures were viewed as four clusters, consisting of 1) figures u7 and u8, 2) u9 and u10, 3) the four overweight figures plus figure n10, and 4) a cluster comprised of figures n7, n8, and n9. A frequency analysis of the rankings indicated that figures u7 and u8 were expected to be most successful, followed by figures n7, n8, and n9. Figures u9 and u10 were judged similarly to figure n9, and all were expected to be successful, but less so than figures u7, u8, n7, and n8. Figure n10 received mixed ratings, and the overweight figures were all expected to be less successful than the others.

Figures u7, u8, u9, and u10 were placed in the top third of the rankings by 68%, 63%, 43%, and 37% of subjects, and within the top two-thirds by 89%, 86%, 78%, and 74% of subjects, respectively. The normal weight figures were generally rated quite favorably, as figures n7, n8, and n9 were ranked within the top third of the ratings by 54%, 45%, and 34% of subjects, and were placed within the first two-thirds by 88%, 92%, and 89% of subjects, respectively. Figure n10 received less favorable rankings, as it was placed within the top third by only 13% of subjects and among the first two-thirds of the ratings by only 63% of subjects. The overweight figures were clearly expected to be less successful than the underweight and normal weight figures. Specifically, figures o7, o8, o9, and o10 were placed in the bottom third of the ratings by 63%, 53%, 68%, and 78% of subjects, respectively. Contrary to the underweight and normal weight figures, the four overweight shapes were placed in the top third of the rankings by only 10%, 14%, 10%, and 7% of subjects, respectively.

Figure 43

ALSCAL spatial map for: Successful (All subjects: n = 270)



Across subject groups, figure u7 was consistently expected to be quite successful, being placed in the top third of the rankings by between 64% and 73% of subjects. Figure u8 was perceived favorably as well, being placed within the top of the ratings by between 63% and 71% of subjects, with the exception of African American women, 52% of whom rated it in this way. Figure u9 was judged somewhat less favorably, as between 44% and 52% of most subjects rated it in the top third of the rankings, with only 29% of African American women judging the figure in this way. Figure u10 was most commonly ranked among the first two-thirds of the ratings, with between 27% and 52% of subjects placing it among the top third.

Like figures u7 and u8, figures n7, n8, and n9 were expected to be rather successful. Figure n7 appeared to be preferred by African American women as 70% of them placed it within the top third of the rankings, compared to between 42% and 61% of subjects from the other groups. Figure n8 was also judged quite favorably, being placed within the top of the rankings by 23% to 52% of subjects. Similarly, figure n9 was rated favorably, generally being placed in the middle of the rankings. It was rated among the top third by 23% to 38% of subjects, depending on subject group. Contrary to the other normal weight figures, figure n10 was expected to be less successful as it was placed within the bottom third of the ratings by between 26% and 45% of subjects and among the middle third by 43% to 56% of subjects.

Like figure n10, the overweight figures were expected to be less successful. Figure o7 was placed in the bottom third of the rankings by most subjects. African American women tended to rate the figure slightly more positively than the others, as only 49% of them placed it within the bottom third compared to 61% to 74% of the other subjects. Figure o8 received similar judgements, as it was placed among the bottom third by between 42% and 60% of subjects, with no clear group differences. Figure o9 was expected to be quite unsuccessful by all subject groups, being placed in the bottom third of the rankings by between 58% and 80% of subjects. Figure o10 was also rated unfavorably by all subjects, as it was placed in the bottom third of the rankings by 70% to 86% of subjects, depending on subject group.

Figures 44, 45, 46, 47, 48, and 49 show the 'successful' spatial configurations for each of the subject groups.

Figure 44

ALSCAL spatial map for: Successful (Caucasian males: n = 54)

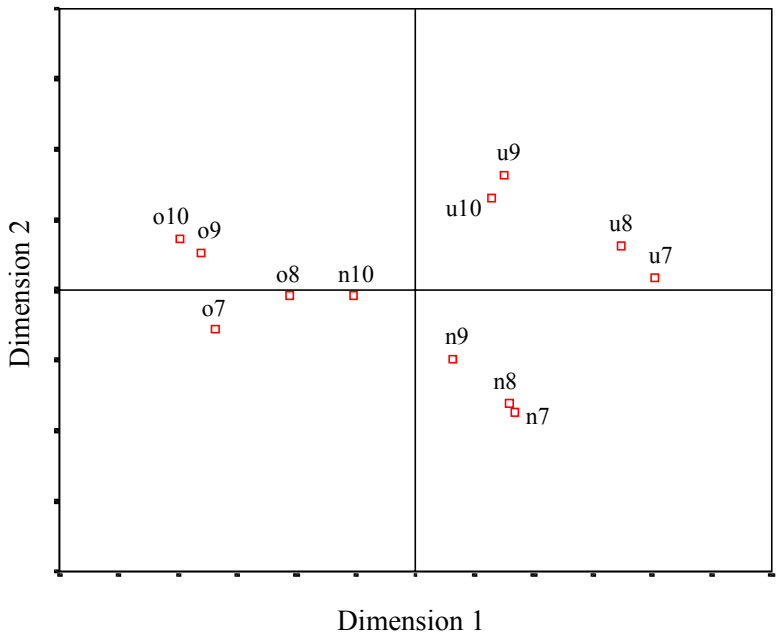


Figure 45

ALSCAL spatial map for: Successful (Caucasian females: n = 60)

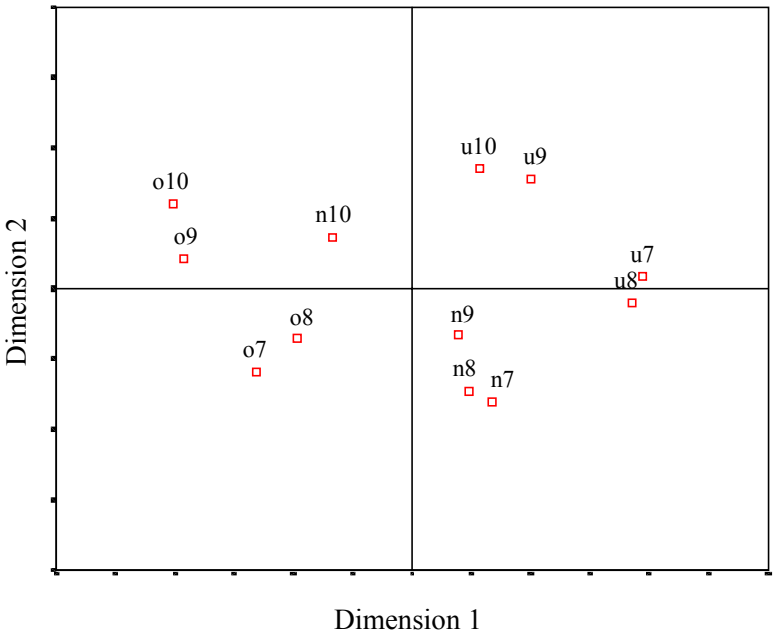


Figure 46

ALSCAL spatial map for: Successful (African American males: n = 28)

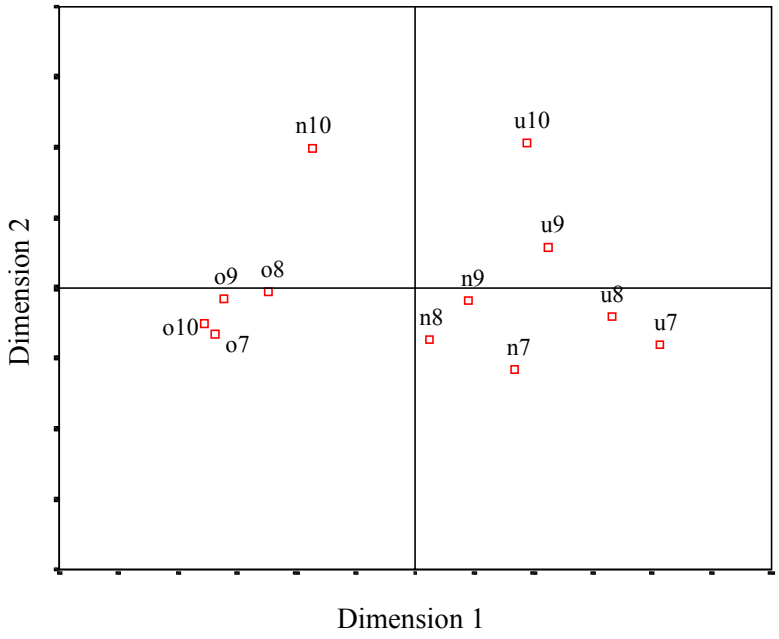


Figure 47

ALSCAL spatial map for: Successful (African American females: n = 57)

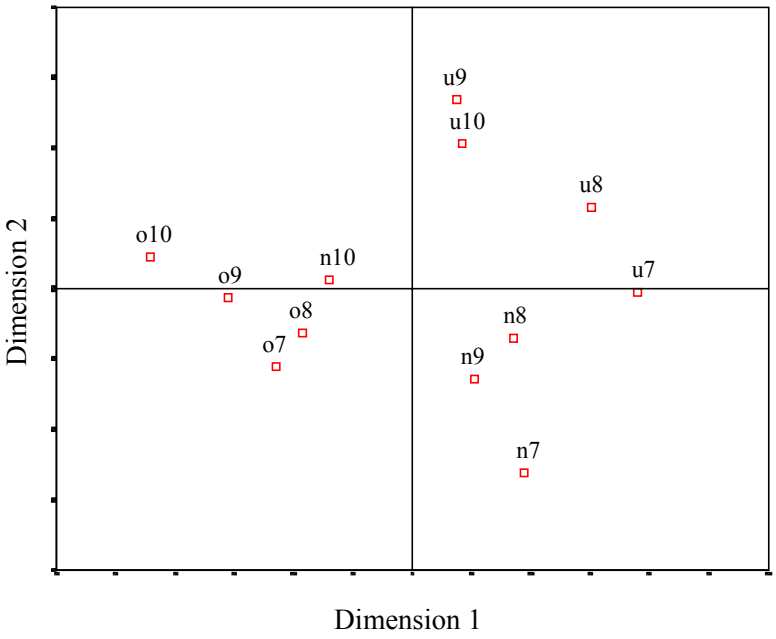


Figure 48

ALSCAL spatial map for: Successful (Hispanic males: n = 33)

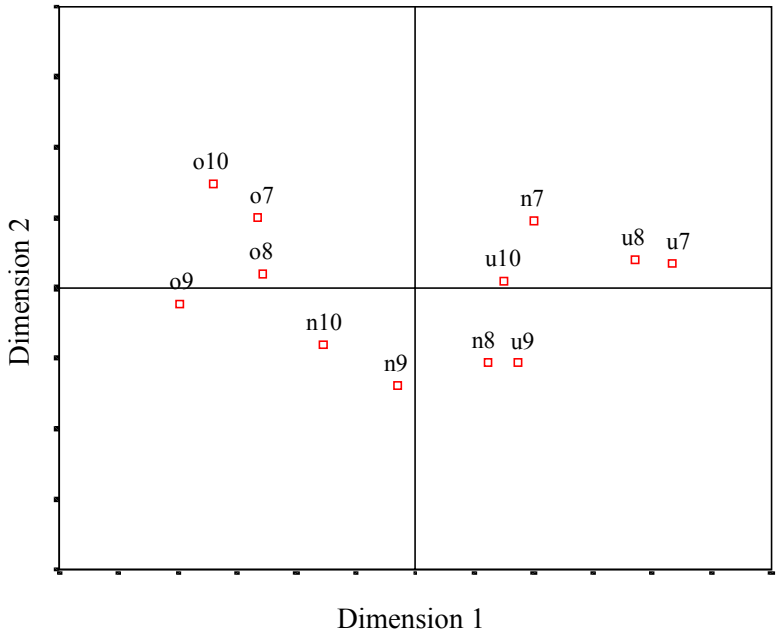
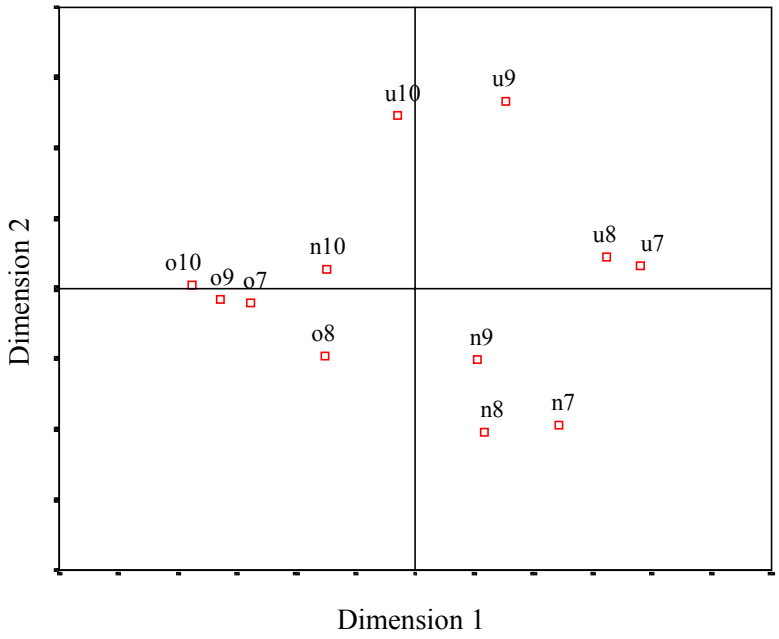


Figure 49

ALSCAL spatial map for: Successful (Hispanic females: n = 38)



Competitive

All subjects were asked to rank the figures as to how "interpersonally competitive" they expected them to be, for instance, how "concerned with status between people, how likely to compete with or try to be, or appear to be, better than friends." Two hundred sixty-seven (89.9%) of the 297 subjects provided usable data. Table 49 provides the s-stress and R^2 values for the two-dimensional proximity solutions for the total sample and each subject group. The values indicate that the spatial configurations represented the data quite well.

Table 49

Summary of ALSCAL solution for: Competitive

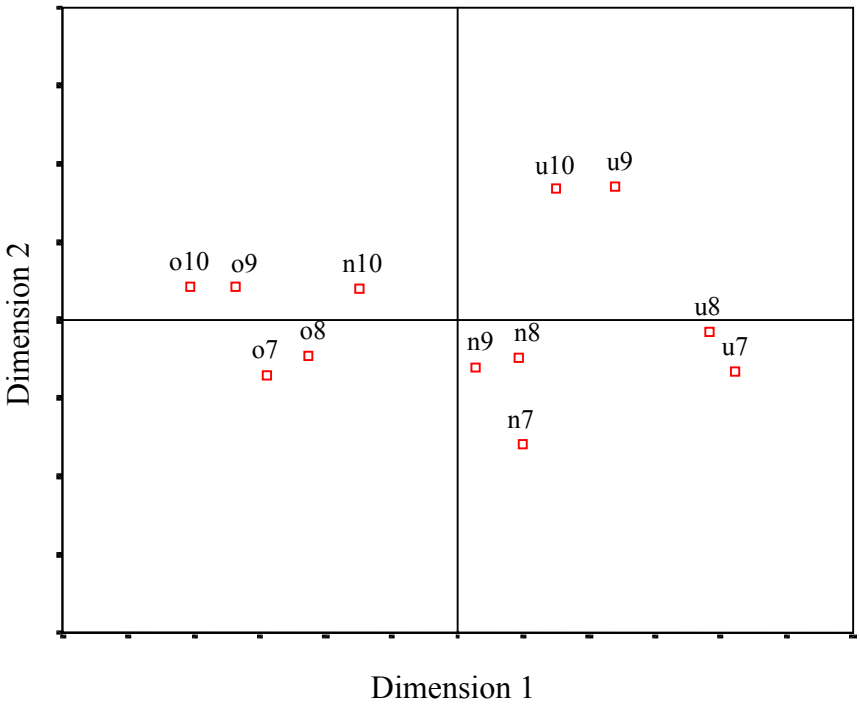
Subject Group	n	Iterations	s-stress	R^2
All Subjects	267	5	.02163	.99361
Caucasian males	53	7	.02668	.99413
Caucasian females	62	6	.04446	.97774
African American males	25	6	.05467	.98359
African American females	58	5	.05119	.98440
Hispanic males	30	8	.05098	.97597
Hispanic females	39	6	.03883	.98887

Figure 50 shows the spatial configuration for the entire sample and indicates that the figures were perceived as belonging to four clusters, consisting of figures 1) u7 and u8, 2) u9 and u10, 3) the four overweight figures plus figure n10, and 4) figures n7, n8, and n9. A frequency analysis of the rankings indicates that the underweight figures were expected to be most competitive, while normal weight figures were assumed to be somewhat less competitive, and the overweight figures were expected to be least competitive.

Figures u7, u8, u9, and u10 were placed in the top third of the rankings by 79%, 74%, 58%, and 49% of subjects, respectively, and ranked within the top two-thirds by between 80% and 91% of subjects depending on the figure. The normal weight figures were expected to be somewhat competitive, as figures n7, n8, and n9 were ranked within the top third of the ratings by 42%, 28%, and 23% of subjects, and placed within the first two-thirds by 86%, 88%, and 84%, respectively. Figure n10 was expected to be less competitive, as it was placed within the bottom third of the ratings by 39% of subjects, and among the middle of the rankings by 50% of subjects. The overweight figures were clearly expected to be less competitive than the others. Specifically, figures o7, o8, o9, and o10 were placed within the bottom third of the rankings by 64%, 54%, 70%, and 78% of subjects, respectively, and ranked among the bottom two-thirds by 90% to 93% of subjects depending on the figure. Contrary to the underweight and normal weight figures, the four overweight shapes were placed in the top third of the rankings by less than 10% of subjects.

Figure 50

ALSCAL spatial map for: Competitive (All subjects: n = 267)



As noted above, figures u7 and u8 were perceived to be the most competitive of the figures. Across subject groups, figure u7 was rated quite consistently, being placed within the top third of the rankings by between 74% and 83% of subjects. Figure u8 was also rated as highly competitive by most groups, being placed in the top third of the rankings by 76% to 81% of subjects, with the exception of African American women, 61% of whom rated it in this way. Figure u9 was judged to be slightly less competitive, as between 42% and 69% of subjects placed it within the top third of the rankings with no clear group differences emerging. Figure u10 was also perceived to be competitive, being placed in the top third of the rankings by between 45% and 59% of most subjects.

Contrary to the other subjects, African American women rated figure u10 evenly, as 35%, 33%, and 32% of them placed it within the top, middle, and bottom thirds.

Like the underweight figures, figures n7, n8, and n9 were expected to be rather competitive as subjects most commonly placed them within the first two-thirds of the rankings. Figure n7 was expected to be somewhat competitive, as between 33% and 52% of subjects placed it within the top third of the rankings and between 69% and 92% of subjects placed it within the first two-thirds. Hispanic males did not perceive figure n7 in any clear direction, as it was placed in the top, middle, and bottom thirds by 34%, 34%, and 31% of them, respectively. Figure n8 was rated similarly, being most often placed in the middle third of the ratings. It was placed within the top two-thirds by 79% to 95% of subjects, and between 19% and 36% of subjects ranked it within the top third. Figure n9 was also most commonly placed within the first two-thirds of the ratings, as between 74% and 92% of subjects rated the figure in this way. It was ranked among the top third by 15% to 33% of subjects. Figure n10 was generally viewed as less competitive. Like the other normal weight figures, it was most commonly placed within the middle third of the ratings. It was ranked within the bottom third by 30% to 46% of subjects, and placed within the bottom two-thirds by between 83% and 97% of subjects.

The overweight figures were expected to be less competitive than their underweight and normal weight counterparts. Figure o7 was placed in the bottom third of the rankings by between 60% and 69% of subjects. Similarly, figure o8 was placed within the bottom third by 45% to 64% of subjects. Figure o9 was also consistently placed among the bottom third of the rankings, being rated in this way by between 57% and 79%

of subjects. Figure o10 was judged to be least competitive, being placed within the bottom third of the rankings by between 63% and 88% of subjects. As a group, the overweight figures were rated among the middle and bottom thirds of the rankings by between 86% and 98% of subjects, depending on subject group and figure shape.

Figures 51, 52, 53, 54, 55, and 56 show the 'competitiveness' spatial configurations for each of the subject groups.

Figure 51

ALSCAL spatial map for: Competitive (Caucasian males: n = 53)

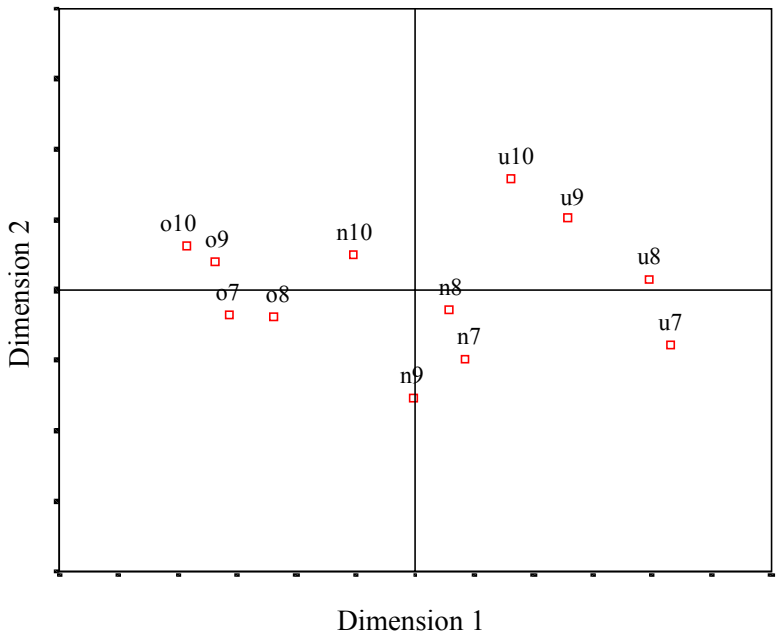


Figure 52

ALSCAL spatial map for: Competitive (Caucasian females: n = 62)

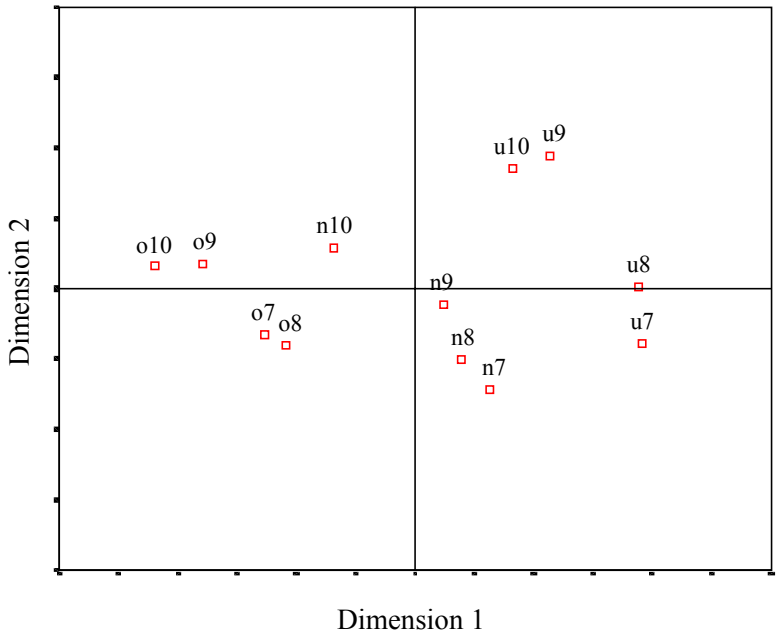


Figure 53

ALSCAL spatial map for: Competitive (African American males: n = 25)

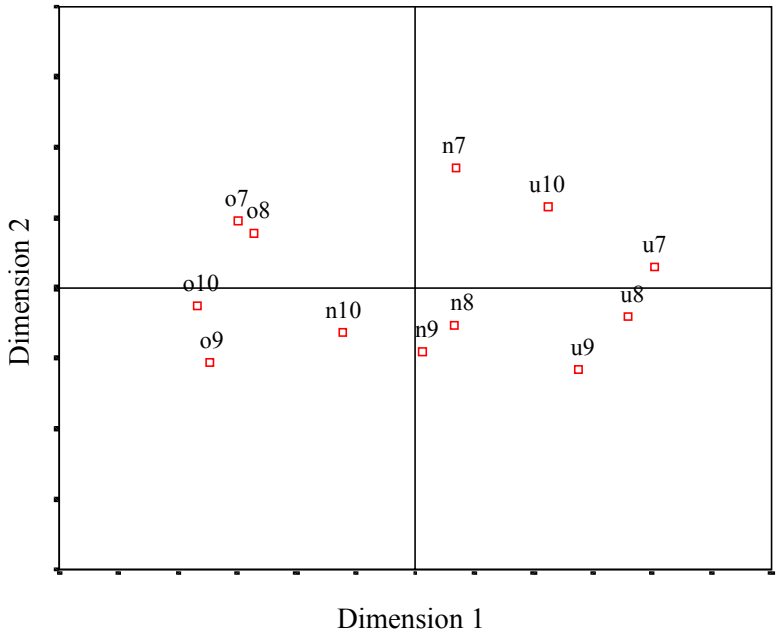


Figure 54

ALSCAL spatial map for: Competitive (African American females: n = 58)

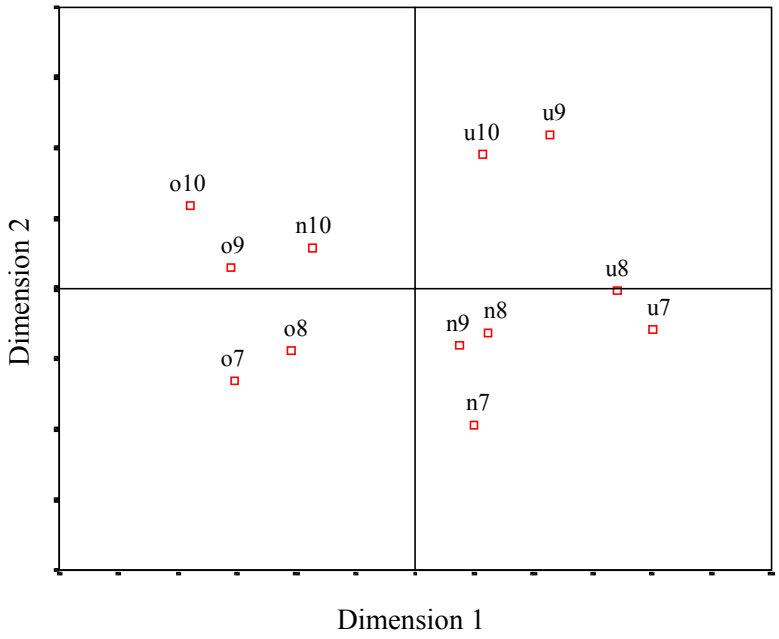


Figure 55

ALSCAL spatial map for: Competitive (Hispanic males: n = 30)

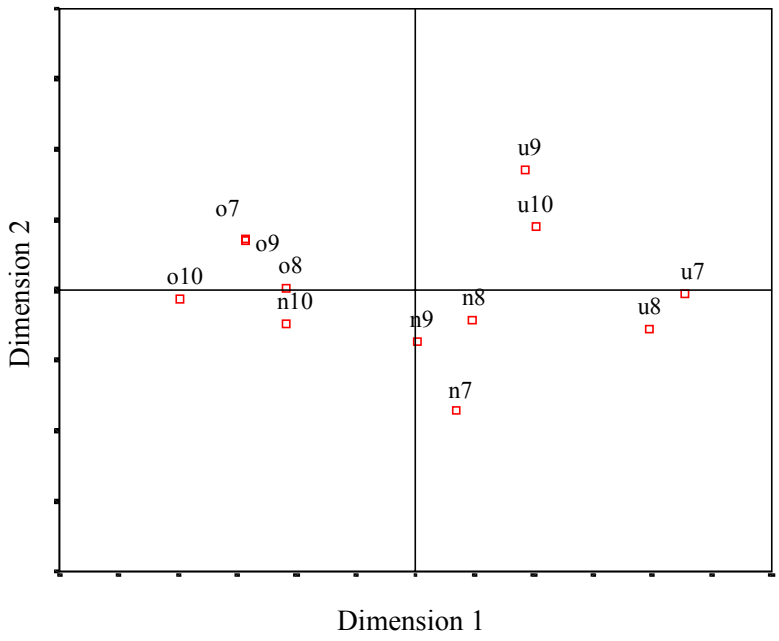
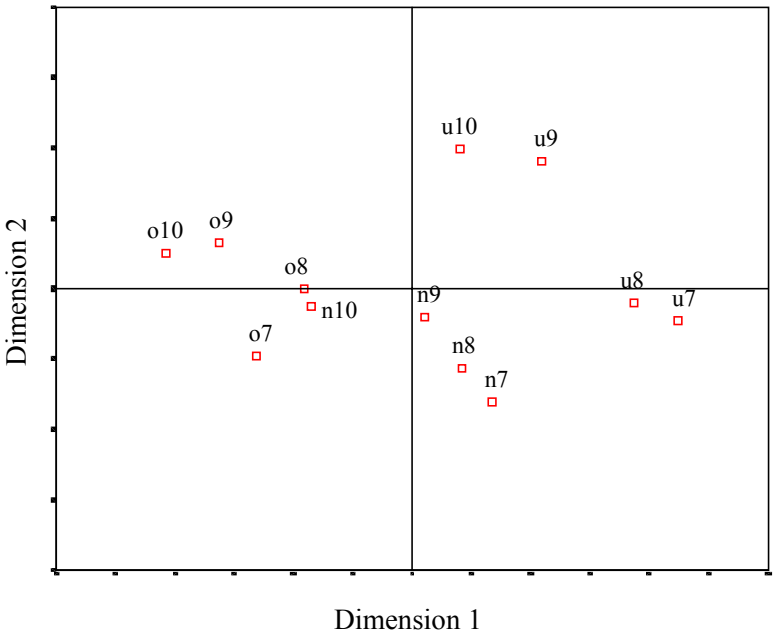


Figure 56

ALSCAL spatial map for: Competitive (Hispanic females: n = 39)



CHAPTER 4

DISCUSSION

The discussion will be divided into 5 areas. The first will summarize results from the first portion of the study, which assessed how physically attractive subjects perceived the stimulus figures to be. The second portion of the discussion will highlight conclusions regarding the personality attributes that were associated with the various female body shapes. The third area will discuss general themes found in the current study and their relationship with women in American society. The last two sections of the discussion will address strengths and weaknesses of the current study, and its implications for future research.

Female body shape and perceived attractiveness

It was hypothesized that a three-way, gender by race by figure interaction would emerge in those portions of the study that addressed which figures subjects thought were most attractive and ideal for a female. However, in those questions that assessed male and female preferences, gender played a minimal role as all subjects perceived the figure shapes quite similarly. In fact, the two-way gender by figure interaction term was only included in one loglinear model, that which summarized the data for subjects' judgements of the ideal female shape. More often, the figure shapes themselves were found to contribute most to the variability in subjects' responses. Racial background played a more

secondary role as it was included in the loglinear models that summarized subjects' judgements of the ideal female shape, the most attractive female figure, the figure women thought men would find most attractive, and the figure women would most like to look like. Racial background was not important in determining which figure best approximated the female subjects' own figure, or which figure other women would be expected to rate as most attractive.

With regard to figure shape, the results showed that it was extremely rare for subjects, regardless of gender or race, to judge overweight figure shapes and those with no waist and hip curvature (WHR of 1.0) as representative of the female ideal. Rather, the majority of subjects found a female shape that was either underweight or of normal weight, with a significant or moderate amount of shapeliness (WHR of .7 or .8) to be ideal for a female. Across shapes, subjects tended to prefer the figure with the most curvature within a given weight category, and underweight figures were rated ideal more often than normal weight figures. For example, 37% of the sample believed that an underweight female with a significant amount of body curvature (WHR of .7) was ideal, whereas only 20% felt that a normal weight figure with the same degree of shapeliness was ideal. Similarly, 19% of the sample rated an underweight figure with moderate shapeliness (WHR of .8) as representative of the female ideal, compared to only 10% of subjects who preferred a normal weight figure of similar proportion.

Men appeared to prefer more curvature in a female shape than women, particularly when judging an underweight figure, as was evidenced by the finding that 48% of men rated figure u7 as ideal, compared to 31% of women. On the other hand,

23% of women chose figure u8 as most ideal, compared with only 15% of men. More variability was found between figure choice when race was taken into account. Caucasian and Hispanic subjects preferred underweight figures more than African Americans, as 69% of Caucasians and Hispanics selected an underweight figure to represent the female ideal compared with 51% of African Americans. Conversely, 49% of African Americans chose a normal weight figure, compared to 31% of Caucasian and Hispanic subjects. Of the 6 subjects who felt an overweight figure was ideal, 4 (67%) were African American.

Subjects found attractiveness, sexiness, and the ideal female body shape to be closely related, as the same figures that were viewed as ideal were most often rated as attractive and sexy. The characteristics that subjects found to be most attractive in a female were having a moderate to significant amount of waist and hip curvature, and being underweight or of normal weight. The underweight figure with the most curvature (figure u7) was clearly judged to be most attractive by the sample, followed by the underweight figure with slightly less curvature (u8), followed by the normal weight figure with a significant amount of shapeliness (n7). Only 6% of subjects found an underweight figure (2%) or normal weight figure (4%) with a small amount of shapeliness (figures u9 or n9) to be most attractive. As before, the overweight figures and those with no waist and hip curvature were rarely or never viewed as most attractive. These findings were replicated when subjects were asked to rank order the figures with respect to their level of attractiveness.

Similar to the ideal female judgements, Caucasian and Hispanic subjects generally found underweight figures to be most attractive, whereas African Americans

often judged normal weight figures to be most attractive. Approximately 79% of Caucasians and 82% of Hispanics rated an underweight figure as most attractive, compared to only 48% of African Americans. Although gender did not play a major role in the ratings, a trend was observed in which Caucasian and Hispanic women tended to rate underweight figures as attractive slightly more often than their male counterparts. Specifically, 83% of Caucasian women and 88% of Hispanic women chose an underweight figure to be most attractive, compared to 73% of Caucasian men and 74% of Hispanic men. This was not the case for African Americans, as 47% of African American women and 52% of African American men found an underweight figure to be most attractive.

When the figures were rank ordered with respect to attractiveness, it was found that African American women tended to rate the overweight and normal weight figures more favorably than the other subjects. This was particularly true when the figure in question had a significant amount of waist and hip curvature. On the other hand, African American women ranked underweight and normal weight figures with no waist and hip definition more negatively than the other subjects.

Not surprisingly, underweight and normal weight figures who had a WHR of .7 or .8 were generally viewed as most sexy, followed by underweight figures with less body curvature (WHR of .9). Overweight figures and normal weight figures with no waist and hip definition were typically ranked as least sexy. In general, the figures were rated similarly across subject groups, with the exception of African American women. Although African American women judged underweight figures with significant waist

and hip definition as being quite sexy, they tended to rank a normal weight figure with the same amount of body curvature more favorably. Likewise, overweight figures with a moderate or significant amount of waist and hip curvature were rated more favorably by African American women than by the other subjects.

When asked to evaluate how they think men rate female body shapes, women were generally quite accurate. The large majority (92%) of women felt that men would find an underweight or normal weight figure with a moderate to significant amount of shapeliness to be most attractive (either figures u7, u8, n7, or n8). As was noted previously, this is actually the case for most men. A trend appeared in which Caucasian and Hispanic women slightly overestimated men's preference for an underweight figure. While 91% of Caucasian women and 85% of Hispanic women thought that men would prefer an underweight female, in reality only 73% of Caucasian men and 74% of Hispanic men felt this way. This finding is congruent with previous research, which has shown that men do prefer women with a slender figure, but women often overestimate the amount of thinness that men desire (Fallon & Rozin, 1985). African American women, on the other hand, were quite accurate in estimating the percentage of males who would prefer an underweight, normal weight, or overweight figure. They slightly underestimated the amount of waist and hip curvature a man would prefer, as 77% of African American men preferred a significant amount of shapeliness (WHR of .7) compared to the 68% that African American women expected would prefer this shape.

When estimating what other women would find most attractive, very few subjects thought that other women would rate an overweight female, or one with no shapeliness as

being attractive. Rather, 86% of female subjects felt that other women would judge an underweight woman to be most attractive, and 87% of these thought that a very shapely or moderately shapely underweight woman would be viewed most favorably. Interestingly, no gender or racial differences in estimates were found.

To assess how satisfied female subjects were with their own appearance, they were asked to select the figure that best approximated their current shape and that which they would most prefer to look like. Although all 12 figures were utilized to approximate subjects' current body shapes, the majority of women believed that they were most similar to figures in the underweight and normal weight categories. Subjects' responses showed that 33% of women felt that they were underweight, 46% rated themselves as being of normal weight, and 21% judged themselves as being overweight. Approximately 70% of the female subjects felt that their bodies evidenced a moderate or significant amount of waist and hip definition, as they chose figures with WHRs of either .7 or .8. Subjects rarely judged themselves as having no waist and hip curvature, except in the case of African American women, 9% of whom thought they were overweight and had no shapeliness.

The data seemed to reflect racial differences between women, as 33% of African American women thought they looked like one of the four overweight figures, compared to only 13% of Caucasian or Hispanic women. Hispanic women tended to view themselves as underweight, as 48% selected one of the four underweight figures compared with only 27% of Caucasian women and 29% of African American women. Hispanic women most commonly selected a figure with a moderate to mild amount of

waist and hip curvature (WHR of .8 or .9), whereas Caucasian women selected a normal weight figure with a moderate to significant amount of waist and hip definition (WHR of .7 or .8) to best represent them.

Subjects' appraisals of their own body shape appeared to be quite consistent with their responses at the beginning of the study protocol. The demographics survey revealed that 55% of African American women judged themselves as being overweight compared to only 35% of Caucasian women and 28% of Hispanic women. On the other hand, 64% of Caucasian women and 65% of Hispanic women initially rated their weight as 'average or about right' on the demographics survey, compared to only 40% of African American women. These self-judgements are supported by the finding that African American women weighed significantly more than Caucasian or Hispanic women.

With regard to weight and figure aspirations, most of the women in the sample wished to have a figure characterized by a moderate or significant amount of shapeliness, and preferred to be underweight or of normal weight. This was evidenced by the finding that 93% of the female subjects selected either figures u7, u8, n7, or n8 as the figure that they would most like to look like. Of the remaining women, 6% wanted to have less waist and hip definition but still wished to be either underweight or of normal weight. Not surprisingly, practically no women wanted to be overweight or have no body curvature, as only 1% of the sample aspired to have a shape characterized by either figures o8 or o10. Racial differences were found as 80% of Caucasian and Hispanic women preferred to be underweight while only 50% of African American women shared this goal.

Conversely, more African American women (47%) than Caucasian (17%) or Hispanic (20%) women wished to be of normal weight.

Personality attributes associated with the various female shapes

With respect to personality attributes, the 12 figure shapes were ranked differently depending on their weight, shapeliness, and the attribute in question. The results showed that those underweight figures that were judged to be most sexy, attractive, and ideal were routinely assumed to be least family-oriented, with no clear subject group differences being found. On the other hand, normal weight figures were expected to possess some devotion to family. Even those normal weight figures that were viewed as being attractive and sexy were expected to be more family-oriented than their underweight counterparts. Among normal weight figures, Hispanic males assumed that a woman with a moderate or significant amount of body curvature would be more interested in family than a normal weight woman with less shapeliness. Aside from this, no other trends emerged for normal weight figures. The overweight figures were assumed to possess the most devotion to family. A trend was seen in which African Americans, particularly males, expected those overweight figures who were perceived as least attractive and sexy to be the most family-oriented. Although they viewed the overweight figures favorably, Caucasian and Hispanic men rated them as being slightly less family-oriented than the other subject groups.

With respect to faithfulness, the overweight figures were consistently rated as most faithful while the underweight figures were clearly expected to be least faithful by all subject groups. This was particularly true for those underweight figures that were

previously judged to be most attractive and sexy. The normal weight figures were assumed to possess some degree of faithfulness, and this expectation was higher for the normal weight figure with no waist and hip definition.

Interestingly, subjects tended to expect those female figures that were perceived as most family-oriented and faithful to be least emotionally stable. Specifically, the overweight figures were consistently expected to have the least ability to effectively express and control their emotions, although African Americans judged them less critically than the other subject groups. On the other hand, the normal weight figures that evidenced some degree of shapeliness (WHR from .7 to .9) were rated most favorably, as they were expected to possess the most emotional stability. The normal weight figure with no body curvature was assumed to possess somewhat less emotional stability. The underweight figures that were previously judged to be most attractive and sexy were also assumed to possess a healthy ability to express and control their emotions. There were no trends observed for the other underweight figures.

The results showed that subjects, as a whole, expected underweight figures to be least kind, while normal weight figures were assumed to possess some degree of kindness, and overweight figures were expected to be most kind and considerate of others. The normal weight figure with no shapeliness was judged slightly more favorably than those normal weight shapes with some waist and hip definition. A trend was found in which Hispanic males and African Americans, males in particular, expected the normal weight figures to possess less kindness than Caucasian subjects and Hispanic females. No trends were noted for the underweight or overweight figures.

Subjects expected attractive figures to be successful, as the underweight and normal weight figures with a moderate to significant amount of waist and hip shapeliness were assumed to be most successful. The underweight attractive figures were generally expected to be more successful than the normal weight figures, except by African American women, who rated the normal weight figures slightly more positively. As figures' shapes became more divergent from what was most often considered ideal for a female, so did the expectations for figures' success. The overweight shapes were all clearly expected to have a less rewarding and successful career than their underweight and normal weight counterparts.

In general, the underweight figures were expected to be the most interpersonally competitive of the female shapes. This assumption was particularly true for those underweight figures with the most waist and hip shapeliness, that is, those most often rated as attractive, sexy, and ideal. The normal weight figures were also expected to be competitive with their peers, but to a lesser extent than their underweight counterparts. In particular, the normal weight figure with no waist and hip curvature was expected to be fairly noncompetitive. Of all the figures, the overweight shapes were assumed to be least concerned with competition or status between people. No clear racial or gender trends were observed in the competitiveness ratings.

Overall physical attractiveness and personality findings

Previous research has shown that the "ideal" female body shape tends to change with time. Garner et al. (1980) found that the body shape of Playboy centerfolds became more angular and less voluptuous from 1959 to 1979, while the weights of Miss America

contestants also decreased during this time period. In their follow up to Garner et al.'s study, Wiseman et al. (1992) found that from 1978 to 1988 there continued to be a decrease in the weight, and waist and hip curvature of the contestants and centerfold models. Like Garner et al., Wiseman et al. concluded that the ideal female shape had moved from being more curvaceous to tubular during the time periods studied.

Results from the current study, however, suggest somewhat different preferences in female body shapes. The current findings show that the majority of men and women think that an underweight or normal weight woman with a moderate to significant amount of shapeliness (WHR of .7 or .8) is not only most attractive and sexy, but also ideal for a woman. While it is true that most people prefer an underweight female figure over one that is of normal weight or overweight, unlike Garner et al. (1980) and Wiseman et al.'s (1992) conclusions, most people prefer a woman with shapeliness as opposed to one with a slender, tubular body. This has been replicated in previous literature (Singh, 1993; Singh, 1994a; Singh, 1994c; Henss, 1995) which has shown that both males and females rate normal and underweight female figures with a curvaceous fat distribution (a WHR ranging from .7 to .9) to be most attractive and sexually appealing.

As in previous research, subjects in the current study expected female body shapes to possess varying degrees of certain personality qualities. The tendency for people to attribute personality characteristics based solely on one's appearance has been documented in previous literature. For example, Dion and Dion (1987) found that attractive individuals were assumed to possess more socially desirable characteristics, such as poise, kindness, and sincerity, and were expected to be more popular with

members of the opposite sex and lead a more exciting life than unattractive individuals. Dion and Dion's research suggests a linear relationship between attractiveness and positive personality traits, however the current study (as well as other previous research) shows that this relationship may not be so clear cut. Rather, it appears that both attractive and unattractive figures, and those of various weights and body shapes, are ascribed different personality traits and characteristics.

The present results showed that underweight figures, especially those with a moderate or significant amount of waist and hip shapeliness, tended to be viewed as most attractive, sexy, successful, competitive, and fairly emotionally stable, but least kind, faithful, and family-oriented. On the other hand, overweight figures were viewed as least attractive, sexy, emotionally stable, competitive, and successful, but were assumed to be most kind, faithful, and family-oriented. Contrary to the underweight and overweight figures, the normal weight figures were generally expected to possess a more balanced or tempered amount of a particular trait or characteristic. For example, most subjects rated the normal weight figures as attractive and sexy, but less so than the underweight figures, except for African American women. Similarly, they were assumed to be successful and interpersonally competitive, but to a lesser degree than the underweight figures. The normal weight shapes were also expected to possess faithfulness, kindness, and devotion to family, but to a lesser extent than the overweight figures. Interestingly, those normal weight figures with some degree of shapeliness were assumed to have more emotional control and stability, and were expected to express their emotions more effectively than either the underweight or overweight female shapes. A trend was found in which those

normal weight figures with some degree of shapeliness (WHR of .7 to .9) were expected to be more like the underweight figures on most personality characteristics, whereas the normal weight figure with no waist and hip definition (n10) was expected to be more like the overweight figure shapes.

The current findings are remarkably similar to those of other researchers in the field. Singh (1994a, 1994c) found that overweight figures were rated as less attractive, sexy, and desirable as a companion or long-term mate than underweight women, but more kind, understanding, faithful, and desirous of children. Henss (1995) also found that overweight figures were judged to lack attractiveness, but were expected to be more family-oriented, conscientious, and emotionally stable than underweight figures. Unlike Henss, however, the present study found that underweight and normal weight figures were expected to be more emotionally stable than their overweight counterparts.

As noted above, normal weight figures, particularly those with a moderate or significant amount of waist and hip shapeliness, were often judged to be attractive and sexy. This was particularly true for African American women. They were also assumed to possess a healthy, but not excessive amount of most of the personality traits in question. Previous research has shown that Caucasian and Hispanic males rate shapely normal weight women as having a good sense of humor and a desire for children, and as being interesting to talk to, a good companion, healthy, capable of having children, intelligent, attractive, and sexy (Singh, 1994c). Likewise, African American men and women were found to perceive a shapely normal weight figure as being healthy, attractive, sexy, capable of having children, ambitious and career-oriented, intelligent,

aggressive, interesting to talk to, good-humored, and capable of making a good companion (Singh, 1994a). Similar to the findings of Singh, subjects in the present study appear to associate a normal weight figure, particularly one with a sizeable amount of waist and hip definition, to represent a woman who is not only attractive and sexy, but also fairly well-adjusted. Underweight women of similar proportion seem to be judged as more attractive, sexy, successful, and career driven, but potentially more difficult to bond with due to possessing a lesser degree of socially desirable interpersonal traits. Brigham's (1980) study involving adulterous spouses lends support for this conclusion in that attractive women were assumed to be more sociable, exciting, and sexual, but also more vain and prone to committing adultery. Overweight women, as Henss (1995) and Singh (1994a, 1994c) suggest, appear to be viewed as sensitive and "motherly," and while not as attractive as underweight or normal weight women, they are expected to possess high amounts of many socially desirable interpersonal traits.

Women in the present study shared similar goals with respect to their own appearance. The results showed that women from all three racial groups desired to have a body shape that was congruent to what they thought men and other women would be most attracted to. When estimating their own shape, approximately 45% of women judged their current figure to be either heavier or less shapely than what they considered to be ideal. The degree of similarity between men's and women's judgements are important because it suggests that women, in addition to men, may put pressure on themselves to be underweight by assuming that other women will judge them more favorably if they are thin and shapely. These findings are congruent with those of Fallon

and Rozin (1985), who found that women generally rate themselves as being heavier than the figure they would most like to look like, as well as the figure that they think other men and women would find most attractive. Rozin and Fallon (1988) have also found that females rate what they consider to be ideal very closely to what they think men would consider to be ideal. The authors note that while men and women may both show dissatisfaction with their weight, women tend to be more self-critical and likely to alter their eating habits based on their amount of body dissatisfaction. As Rozin and Fallon conclude, men desire women who are thinner than what women currently perceive themselves to be, which suggests that women may have some realistic reasons for their weight dissatisfaction and pursuit of thinness.

With regard to racial differences, the results suggest that Caucasians and Hispanics seem to be most attracted to an underweight woman, whereas African Americans tend to be more evenly divided among their preference for either an underweight or normal weight figure. This conclusion must be interpreted cautiously however, given that the two most attractive underweight figures (u7 and u8) were perceived to be of average weight or 'about right' by approximately 50% of subjects. Unlike the present sample, the undergraduate samples used in previous research (Singh, 1994c; Henss, 1995) seemed to judge the stimulus figures as belonging to their planned weight categories more often than was found in the present study. Thus, the present results may be somewhat skewed, showing that subjects preferred underweight figure shapes more often than college students in other similar research studies.

Regardless of this possible flaw, the results suggest that African American women seem to find a normal weight female that is quite shapely as being more attractive and sexy than an underweight figure of similar proportion. For a very small subsample of African American women, there was also a preference for an overweight female body shape. All subject groups tended to prefer a more shapely rather than tubular figure. These results are congruent with those of Singh (1994a), who found that African American men and women judge a normal weight figure with a low WHR (.7) as being attractive and sexy. Previous research has also shown that, among Caucasian and Hispanic men (Singh, 1994b, 1994c; Henss, 1994), as a woman's WHR decreases (becomes more shapely), ratings of her attractiveness increase.

It appears that African Americans in general, and African American women specifically, tend to be more tolerant of weight discrepancies and have less stringent ideas about what constitutes an "ideal" female body shape than other racial groups. Even more interesting was the finding that African American women were very accurate in their assessment of which female shapes African American men prefer. Despite their estimates of which physical attributes men (and other women) would judge to be favorable in a woman, many African American women readily admitted that they were 'overweight' and did not look like this 'ideal'. Whereas 79% of Caucasian women and 75% of Hispanic women aspired to look like the most frequently chosen ideal figure, an underweight woman with a moderate to significant degree of shapeliness (figure u7 or u8), only 49% of African American women sought this 'ideal'. Instead, 41% of African American women preferred to look like a shapely normal weight woman (figure n7) compared to

only 17% of Caucasian and Hispanic women. Many subjects rated figure n7 as attractive, sexy, and ideal, but this occurred less frequently than for the underweight figures. In this way, African American women appear to set a less stringent, and possibly more realistic goal for themselves to achieve in terms of their own body shape when compared to women of Caucasian or Hispanic backgrounds. In addition to positive ratings of physical attractiveness, African American women often judged shapely normal weight figures more favorably than their underweight counterparts with respect to some of the personality characteristics measured. In this way, they not only appeared to view a shapely normal weight figure as acceptable physically, but also as admirable with respect to psychological and interpersonal characteristics.

Several researchers (Beren & Chrisler, 1990; Hesse-Biber, 1989) have implicated cultural background as a factor in the development of eating problems and eating disorders. With respect to race, Caucasian females have typically shown formal eating disorders, body image concerns, and disturbed eating patterns more often than minority women. Nevo (1985) estimated that in the United States, 14% of Caucasian college women met DSM-III criteria for bulimia compared to only 4% of African American female students. In another study, Gray, Ford, and Kelly (1987) found that only 3% of African American women met DSM-III criteria for bulimia.

Hsu (1987) has speculated that African Americans in North America and Western Europe are inoculated against eating disorders since they seem to be less preoccupied with weight, shape, and dieting, and hold a better self-image than Caucasians. Research with African Americans supports this hypothesis. Parker et al. (1995) found that 85% of

normal weight African American adolescent females were satisfied with their weight, while 71% of overweight females were dissatisfied with their weight. On the other hand, 90% of Caucasian adolescent females showed some dissatisfaction with their weight, even when they were of normal weight. While no differences were found in dieting behaviors between groups, African American females showed more self-satisfaction with their physical attributes, and routinely received compliments on their "style" and demeanor from other African American males and females. Parker et al. concluded that African American girls tended to view attractiveness as a global construct that is determined more by a person's personality and inner qualities rather than by physical appearance. Caucasian adolescents, on the other hand, wanted to alter their appearance to achieve an external ideal. Whereas Caucasian adolescents seemed to be envious of other women who were physically attractive, African American women tended to be more supportive and encouraging of women that they found attractive.

Rucker and Cash (1992) have also found that African American women were less concerned with weight and held less critical body-image attitudes than Caucasian women. Likewise, they evaluated their overall appearance more positively and showed more moderate assessments of weight than Caucasians. In this way, Rucker and Cash conclude that African American women are more tolerant of weight variations, and appear to be less concerned with achieving an extremely thin body size than Caucasians. Thomas (1989) suggests that African American women may not totally identify and accept American society and Caucasian standards of beauty. Thus, African American women's

overall esteem may be related to other factors which are more important than mere physical appearance.

Such findings suggest that African American women's overall beliefs about body image and attractiveness seem to inoculate them against the development of eating disorders and extreme weight concerns, as Hsu (1987) hypothesizes. The findings of the present study seem to support this. Normal weight female figures, particularly those with a moderate or significant amount of waist and hip shapeliness, were often judged to be attractive and sexy by African American women more often than by subjects from the other groups. These same figures were also assumed to possess a healthy, but not excessive amount of most of the personality traits in question. Contrary to the other subject groups, African American women expected the normal weight shapes to be more successful than the underweight figures. This trend has also been found in previous research (Singh, 1994a), which has shown that African American men and women judge normal weight figures quite favorably with respect to various physical and personality characteristics.

Previous research, in conjunction with those of the present study, show that African Americans, particularly women, not only perceive a shapely normal weight figure to represent a woman who is attractive and sexy, but also one that appears to be psychologically well-adjusted. It is likely that this positive image of a shapely normal weight figure makes such a figure an attractive goal for African American women to strive for. This may be particularly true for those overweight African American women who feel they need to lose weight. Thus, whereas Caucasian and Hispanic women may

strive to achieve an underweight figure, African American women, due to their beliefs about attractiveness, may not need to create such stringent goals for themselves. By not putting as much pressure on themselves they may not have to pursue the extreme weight control or dieting practices that women from other racial groups (e.g. Caucasians) employ. In doing so, they may protect themselves from developing eating disorders.

While the present findings about African American women are supported by previous literature, little research has been done to identify Hispanic women's attitudes about body shape and weight. The current study aimed to provide valuable information about this population. The results showed that 48% of Hispanic women thought they were best represented by an underweight figure, 40% felt that a normal weight figure best represented their appearance, and only 12% thought that their body looked like one of the four overweight female shapes. However, on the demographics survey, only 7% of Hispanic women thought they were underweight, 65% felt they were average or about right, and 28% felt they were overweight. Thus, although a majority of Hispanic women selected an underweight shape as best representing their current figure, only 7% of them actually felt they were underweight. Similarly, whereas 28% thought they were overweight, only 12% actually thought that one of the overweight figures best represented them. This finding may be an artifact of the study in that approximately 50% of the subjects misclassified figures u7 and u8 as being average/about right, rather than underweight as the researcher had planned. Specifically, 36% of Hispanic women thought that figure u7 was average/about right, and 47% felt that figure u8 was average/about right. While this explanation is possible, it seems unlikely in that this trend

was not found for the other female subjects, even though approximately 53% of Caucasian and African American women judged figure u7 to be average/about right, and approximately 45% misclassified figure u8 as being average/about right.

An alternative interpretation is that Hispanic women may be more critical of their body shape and may put more pressure on themselves to be thin and underweight than women of African American and, possibly, Caucasian backgrounds. Indeed, in the present sample the Hispanic women weighed significantly less than African American women, although they did not weigh significantly less than Caucasian women. Hispanic men and women tended to be quite similar to Caucasian men and women with respect to which female shapes they found most attractive, sexy, and ideal. No clear differences were found for Hispanic subjects with respect to the personality characteristics they attribute to women of different shapes. Prevalence estimates for the incidence of eating disorders and disturbed eating behaviors in Hispanic women is less well documented than for Caucasians or African Americans. However, it seems that Hispanic women may show disturbed eating patterns and be just as vulnerable to developing eating disorders as Caucasian women (Pumariega, 1986; Snow & Harris, 1989; Smith & Krejci, 1991). For this reason, mental health professionals should be keenly aware that, like Caucasian women, Hispanic women may be predisposed to developing eating problems.

Strengths and limitations

While many studies (Dion, 1972; Singh, 1994a; Singh, 1994c; Henss, 1995) have shown that socially desirable traits, such as sexiness, emotional stability, and commitment to family are often ascribed to figures of different shapes and attractiveness

levels, very few studies had examined racial differences in these areas. The present study serves as a preliminary foundation in this area of literature, particularly by including college-age Hispanic men and women in research of this type. Interestingly, the current findings showed that Caucasian and Hispanic students seem to be quite similar with respect to their ideas of what is attractive in a female, as well as what personality attributes a given female figure would be expected to possess. In some respects, African Americans were qualitatively different from Caucasians and Hispanics in their attitudes about what constitutes female attractiveness, as well as the characteristics associated with women of different shapes. In short, African American undergraduates showed more flexibility in their conceptions of what is considered attractive, sexy, and ideal for a female. In addition, they appear to show more favorable judgements of women who do not meet these standards, whereas Caucasian and Hispanic students seem to be less flexible in their attitudes.

Of interest in the study was how subjects classified the figures. Whereas Singh (1994c) and Henss (1995) found much agreement between college students when they asked participants to sort the 12 figures into underweight, normal weight, and overweight groups, the present study found less consistent responses. Specifically, when subjects were asked to sort the figures into underweight, average/about right, and overweight categories, significant differences were found. The underweight figures were commonly perceived to be either underweight or average/about right, while the normal weight figures were most often judged to be average/about right or overweight. The four overweight figures were consistently placed in the overweight category. Thus, in the

present study the underweight and normal weight figures showed less face validity than the overweight figures. This may have been due to the wording used in the questionnaire. By asking subjects to place the figures into an average/about right category, it is possible that subjects were less objective in making their ratings. The attractiveness results indicated that the majority of subjects felt that the underweight figures, specifically figures u7 and u8, were ideal for a female, which is why many subjects may have also rated these figures as average/about right. Had the current study asked subjects to place the figures into a normal weight category rather than an average/about right category, subjects may have rated the figures more objectively and the results may have been more consistent with those of Singh and Henss. An alternative explanation for the discrepancy is that the undergraduate sample used in the present study held more critical and stringent attitudes about weight and shape than those held by the college students in Singh and Henss' studies.

Regardless, the differences found in figure perceptions may limit the generalizability of the current results. The sample used in the present study was derived from the undergraduate population at a large metropolitan university in the southwestern United States. While the current results may apply to other young undergraduate students at large metropolitan universities, they must be interpreted cautiously with regards to other populations. For instance, the results may not generalize to student populations in more rural areas or the overall Caucasian, African American, or Hispanic working populations, that is, those over the age of 25 who may not be enrolled in college.

Perhaps one of the major strengths of the current study was the use of subjects' current income and family of origin income to serve as a form of control for socioeconomic differences between subject groups. To this author's knowledge, no attempts have been made to control for socioeconomic status in previous studies of this type. While current income and family of origin income do not constitute a measure of acculturation, selecting subjects on these grounds may certainly help mediate some of the confounds that socioeconomic status plays in cross-racial or cross-cultural research.

The present study provides valuable information regarding the attitudes of males and females from Caucasian, African American, and Hispanic backgrounds with respect to physical and psychological attractiveness. However, the study may be less robust than it could have been due to unequal sample sizes. The racial breakdown of the subjects appeared to be representative of the underlying university population. Unfortunately, due to limited enrollment of African American and Hispanic male students in comparison to Caucasians, less minority participants were available than may have been if the study had been conducted at a more racially balanced university. In addition, the subject recruitment procedure may have skewed the sample slightly in that most participants were enrolled in undergraduate psychology classes. Had subjects been recruited from a range of classes, such as those held in the School of Music or Business, perhaps more minority students would have participated. Despite this apparent limitation, the study's findings appear remarkably consistent with previous literature given the relatively small samples of African American and Hispanic males that participated.

Lastly, the statistical methodology used in the study warrants discussion. The study relied on frequency counts to provide the data, which yields some inherent advantages and disadvantages. A possible advantage of frequency based data is that it may provide more ecologically valid subject responses in comparison to responses based on a quasi-numerical scale to rate figure characteristics. A potential disadvantage of using frequency based statistics (e.g., Chi Square) is that they are more difficult to interpret than ANOVA models since they do not allow for post hoc analysis between groups. In an attempt to rectify this problem, loglinear analysis was used to improve statistical interpretability.

Multidimensional scaling procedures are also a valuable tool in visually highlighting how similar or dissimilar subjects perceive a group of things or constructs to be. In the present study, the multidimensional scaling maps provide a quick way to decipher how subject groups felt that the female figure shapes differed with respect to the personality constructs measured. The subsequent use of a frequency analysis to indicate the direction of the rankings is beneficial in that it helps identify trends in the spatial maps, but cannot serve as a post hoc test for identifying statistically significant group differences. Future research may best augment the current study if it utilizes a methodology that can gather ecologically valid data while using parametric (e.g., ANOVA, multiple regression), rather than nonparametric statistics to interpret the data.

Directions for future research

The present study is important in that it highlights some of the racial and ethnic similarities and differences in how people judge women of various body shapes, both

physically and psychologically. It also suggests that ethnic and racial backgrounds are important factors that mediate the attitudes people hold regarding what constitutes attractiveness. These attitudes are likely to play a significant role in the development of disordered eating patterns. As other researchers have suggested (Beren & Chrisler, 1990; Garner et al., 1980; Hesse-Biber, 1989; Hsu, 1987; Morris et. al., 1989; Wiseman et al., 1992), the role of cultural or societal pressures have often been underemphasized or ignored in eating disorder literature, when they may play a very important role in the development of these problems. The present study suggests that such factors should be taken into account when exploring a person's eating attitudes and the predisposition for, and gradual development of, eating disorders.

It is important to note that the present study did not measure or compare subjects from different cultural backgrounds. In addition, as noted above, the study did not include a measure of acculturation to determine how much the minority students identified with the traditional "North American or Western" view of female attractiveness. Rather, the study included subjects from Caucasian, African American, and Hispanic backgrounds and one cannot conclude that all people within these populations think alike with respect to attractiveness and other personality dimensions. It is certainly possible that different ethnic groups within the same race (e.g., Italians, Irish) may share very different views about female attractiveness. Despite these possibilities, the current results are highly consistent across subject groups, even when the differences in African American women are taken into account. This may suggest that the minority students in the present study all shared a fairly similar degree of acculturation and were, thus, not extremely different

from Caucasians in their attitudes. Regardless, the study serves as a good baseline from which future cross-cultural research in this area may be compared. Future research may provide a more sensitive assessment of individual differences if it includes a measure of acculturation, or targets specific populations or cultures (e.g., Mexicans, Cubans) within the same ethnic group.

By emphasizing the role of race, culture, and society however, the current study opens a "Pandora's Box" of difficult questions regarding why certain racial groups, such as African Americans, seem to develop more healthy weight attitudes than other groups. More importantly, it raises the very difficult question of how one attempts to interrupt or change attitudes that appear to be deeply ingrained in Caucasian and perhaps the totality of American society. It seems that if societal pressure is viewed as an important factor in people's attitudes toward female attractiveness, than one's race, ethnicity, and society, in addition to individual intrapsychic factors, should be addressed in treating disordered eating behaviors. This approach, although necessary, may be easier said than done. One potential starting point may be to focus future research on African American women, specifically assessing their attitudes, self-esteem, beliefs, and values about weight, body shape, and the importance placed on being physically and psychologically attractive. By focusing on this population, perhaps trends in behavior, positive thinking, self-talk, and self-perceptions can be identified which help African American women inoculate themselves against some of the pressures of mainstream American society. Once identified, mental health professionals may be able to use these to build self-esteem in other women (e.g., Caucasian or Hispanic), who may place more importance on physical

rather than "global" attractiveness, and may be more susceptible to external pressures and the subsequent development of eating disorders. It is likely that addressing eating problems and attitudes from this direction may be the most productive journey that future research can take.

APPENDICES

APPENDIX A

INFORMED CONSENT FORM

Informed Consent Form

My name is Brian Olby and I am conducting a research project as part of my doctoral training in psychology. This study explores gender differences in perceptions of female attractiveness. Participation in the study involves looking at a variety of pictures and filling out questionnaires. The questionnaires are self-explanatory and should require about 30 minutes of your time to complete. Please answer every question honestly since the results of this study will be most useful if honest and accurate information is obtained.

If you decide to participate in this study, your answers will be kept completely confidential. Confidentiality will be maintained by removing, from the questionnaire packet, this Informed Consent Form. You will be assigned a random number which will be used to identify and code your responses for statistical analysis. Your individual responses will only be identified by a random number, and will not be linked to your name in any way once the Informed Consent Form is detached. In addition, all results will be discussed in terms of group data, and no one person's responses will be discussed individually.

There are no apparent risks or discomforts involved in this study. Participation is strictly voluntary, and you may withdraw from the study at any time without penalty. Should you experience any type of emotional discomfort during the study, please bring this to the attention of the proctor.

If you wish to receive a summary of the results of this study simply send your request, along with a stamped, self-addressed envelope, to Brian Olby at the UNT Psychology Department.

If you are willing to participate in this study, please fill out the information below. This form will be separated from your questionnaire packet when you turn it in. Thank you for your participation.

Brian C. Olby, M.S.
Department of Psychology
University of North Texas
P.O. Box 13587
Denton, TX 76203
(817) 565-2631

I have read/heard a clear explanation and understand the nature of this study. I understand that the current study is for research purposes, that my participation is strictly voluntary, and that I may withdraw my consent for participation at any time. Fully understanding the nature of this study and my participation, I consent to participate.

Name (print):_____

Signature:_____

Today's Date:_____

THIS PROJECT HAS BEEN REVIEWED AND APPROVED BY THE UNIVERSITY OF NORTH TEXAS' INTERNAL REVIEW BOARD FOR THE PROTECTION OF HUMAN SUBJECTS (Phone: (940) 565-3940)

APPENDIX B

DEMOGRAPHICS QUESTIONNAIRE

DEMOGRAPHICS QUESTIONNAIRE

DIRECTIONS: Answer all questions. Whenever a multiple choice answer is given (e.g., male or female), please write in the number of the appropriate answer rather than male or female.

1. Today's Date _____

2. Age _____

3. Gender _____
   1) Male
   2) Female

3a. Approximate Height (in ft, inches) _____
b. When was the last time you measured your height? _____

4a. Approximate Weight (in lbs.) _____
b. When was the last time you weighed yourself? _____

5. How many years of college have you attended? _____

6. What is your current major (please write undecided if you have not yet declared a major) _____

7. What do you consider to be your primary ethnic background? _____
   (please indicate one of the following using the appropriate number):
   1) Caucasian
   2) African American
   3) Hispanic/Hispanic American
   4) Asian/Asian American
   5) Native American
   6) Other _____

8. Current Marital Status (please indicate one of the following by number):_____
   1) Single
   2) Divorced
   3) Separated
   4) Married

9. What do you consider to be your primary religion? _____
   (please indicate one of the following by number)
   1) Catholic
   2) Fundamentalist
   3) Methodist
   4) Baptist
   5) Presbyterian
   6) Jewish
   7) Muslim
   8) Bahai
   9) Other _____

10. Current living situation (please indicate one of the following by number): _____
   1) Living Alone
   2) Living with Parents
   3) Living with Spouse
   4) Living with boyfriend/girlfriend
   5) Living with Roomate
   6) Other _____

11. At this time, do you consider yourself: _____
   (please indicate one of the following by number):
   1) Underweight
   2) Average/About Right
   3) Overweight

12. What do you consider to be your ideal weight (in lbs.)? _____

13. Have you ever been concerned about your eating habits? _____
   (please indicate one of the following by number):
   1) yes
   2) no

14. Do you have any medical conditions which affect your ability to achieve/maintain your desired/ideal weight (e.g. thyroid problems, metabolism problems, etc.)? _____
   1) Yes - if yes, please describe _____
      _____
      _____
   2) No

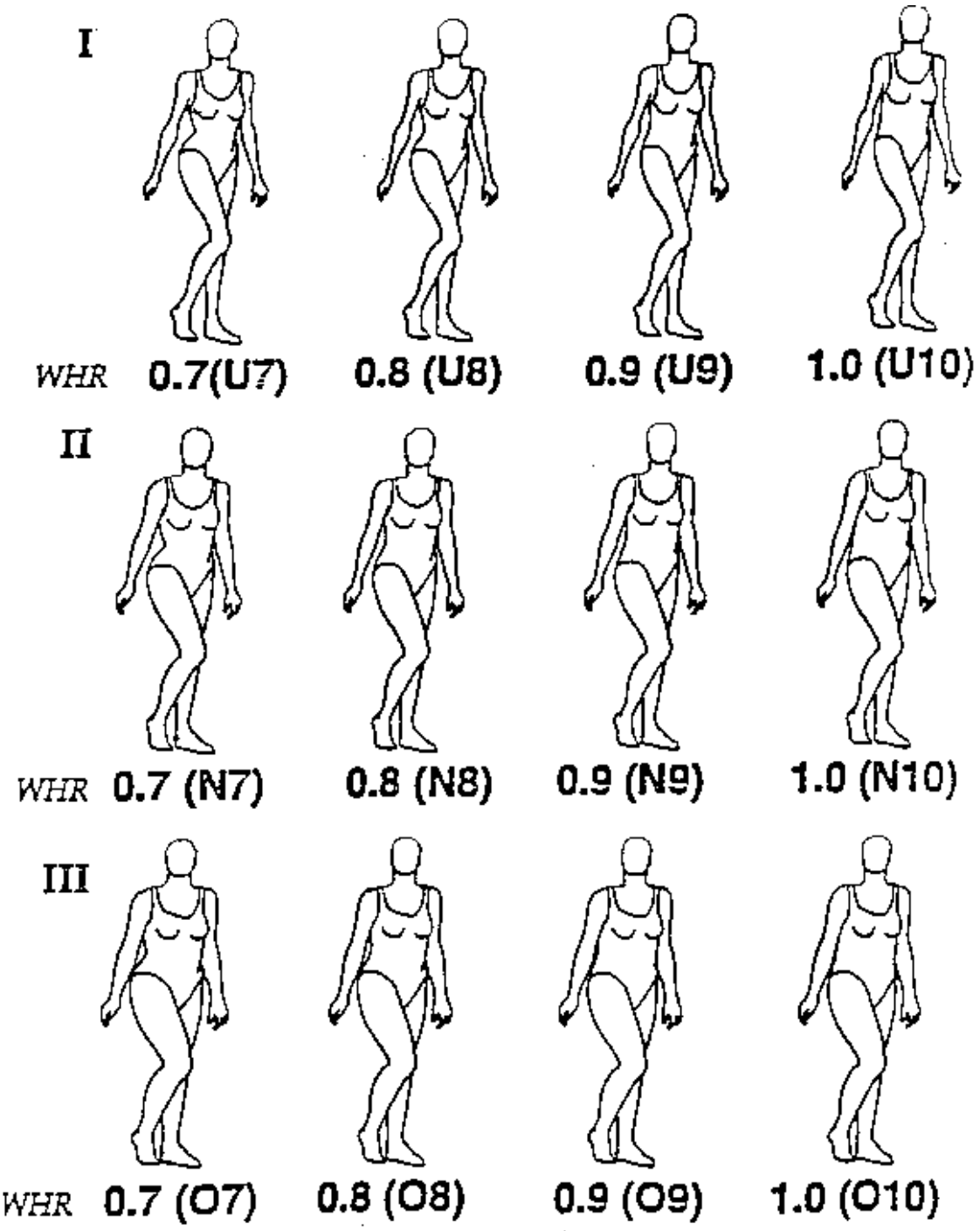
15. Please indicate your current annual income (by number): _____
    1) less than $10,000
    2) $10,001 to $20,000
    3) $20,001 to $30,000
    4) $30,001 to $40,000
    5) $40,001 to $50,000
    6) $50,001 to $60,000
    7) $60,001 to $70,000
    8) $70,001 to $80,000
    9) $80,001 to $90,000
    10) $90,001 and up

16. Please indicate the income of your family of origin when you were growing up:_____
    1) less than $10,000
    2) $10,001 to $20,000
    3) $20,001 to $30,000
    4) $30,001 to $40,000
    5) $40,001 to $50,000
    6) $50,001 to $60,000
    7) $60,001 to $70,000
    8) $70,001 to $80,000
    9) $80,001 to $90,000
    10) $90,001 and up

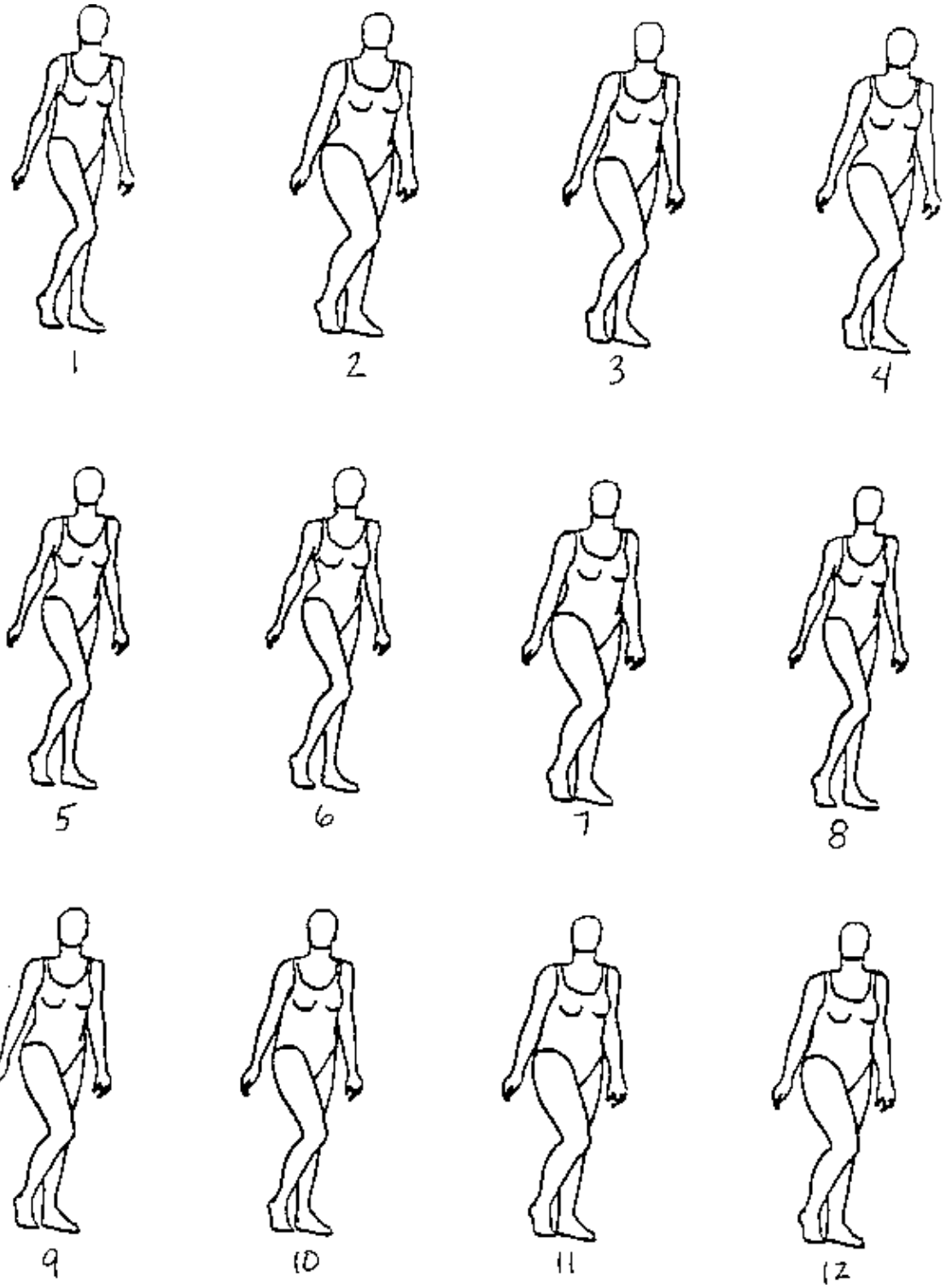
APPENDIX C

STIMULUS FIGURES

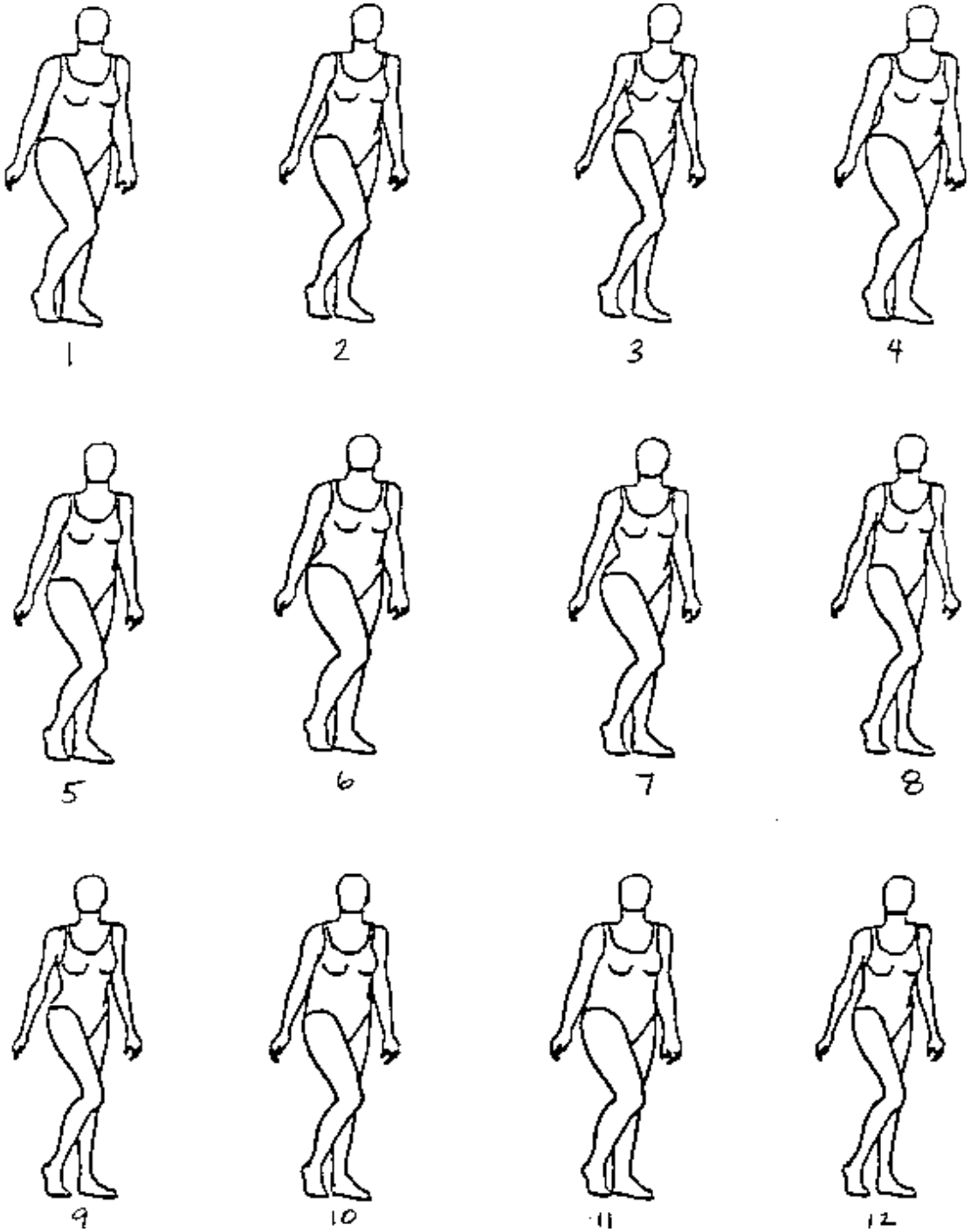
LABELED SET


I
WHR 0.7(U7) 0.8 (U8) 0.9 (U9) 1.0 (U10)
II
WHR 0.7 (N7) 0.8 (N8) 0.9 (N9) 1.0 (N10)
III
WHR 0.7 (O7) 0.8 (O8) 0.9 (O9) 1.0 (O10)

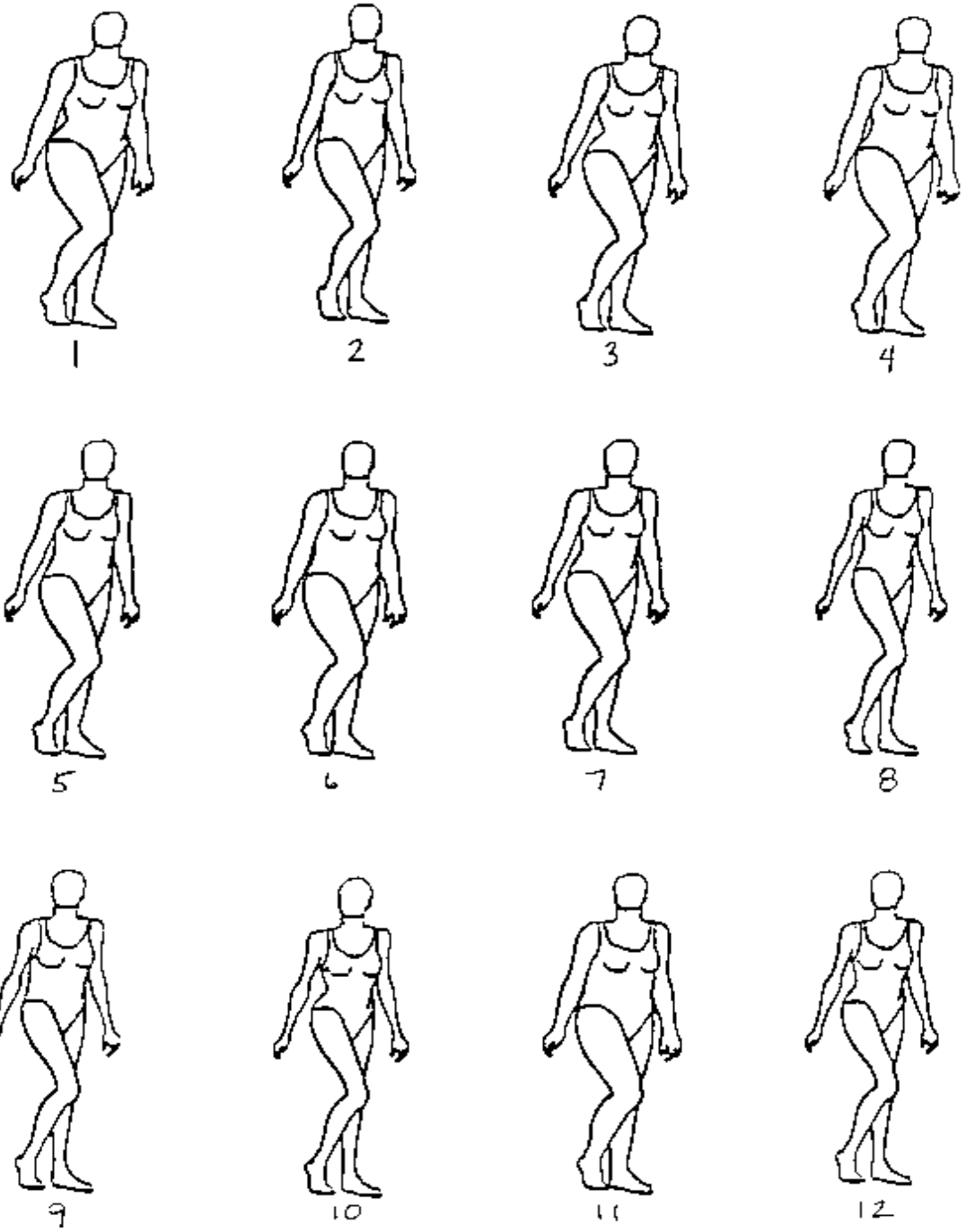
SET A



SET B



SET C



APPENDIX D

PERCEIVED ATTRACTIVENESS QUESTIONNAIRE

Subject number____
Stimulus Set ____

PERCEIVED ATTRACTIVENESS QUESTIONNAIRE

DIRECTIONS: Please refer to the enclosed figure sheet (the sheet with 12 figure drawings of female body shapes) to answer the following questions in parts 1, 2, and 3.

PART 1:

MALES AND FEMALES: Please enter the number of your selection on the line provided next to the question. For Part 1, *only* choose *one* figure from the 12 figures provided to choose from.

1) Which figure do you think is ideal for a female? Enter number here: ___

2) Which figure do you find most attractive? Enter number here: ___

3) Which figure do you think other women would find most attractive? Enter number here: ___

FEMALES ONLY (All males skip this section and go to part 2): Females, again, please only choose one figure from the 12 provided.

4) Which figure do you think best approximates your current figure? Enter number here:___

5) Which figure do you think that men would find most attractive? Enter number here:___

6) Which figure would you most like to look like? Enter number here:___

PART 2 : ALL SUBJECTS

DIRECTIONS: Please refer to the stimulus figures to rate each figure on the following dimensions. You will need to give each figure a rating from 1st to 12th to correspond with whether you think the figure possesses the most or least amount of the trait in question (e.g., emotional stability). *Give each figure only one ranking. Do not give figures tied rankings* (e.g., do not give two 3rd places).

1. Please rate the figures on how *physically attractive* you find them (*how visually appealing are each of the figures*)? Please enter the figure numbers which correspond to your rankings below.

1st (Most attractive)	_____	7th	_____
2nd	_____	8th	_____
3rd	_____	9th	_____
4th	_____	10th	_____
5th	_____	11th	_____
6th	_____	12th (least attractive)	_____

Subject number____
Stimulus Set ____

2. Please rate the figures on how *sexy* you find them (*how sexually appealing are each of the figures*)? Please enter the figure numbers which correspond to your rankings below.

1st (Most sexy)	_____	7th	_____
2nd	_____	8th	_____
3rd	_____	9th	_____
4th	_____	10th	_____
5th	_____	11th	_____
6th	_____	12th (least sexy)	_____

3. Please rate the figures on how *family-oriented* you would expect them to be (*how committed to raising a family, being in a spousal relationship, interested in children*)? Please enter the figure numbers which correspond to your rankings below.

1st (Most family-oriented)	_____	7th	_____
2nd	_____	8th	_____
3rd	_____	9th	_____
4th	_____	10th	_____
5th	_____	11th	_____
6th	_____	12th (least family-oriented)	____

4. Please rate the figures on how *faithful* you would expect them to be (*how committed to a relationship; unlikely to cheat on their spouse or partner*)? Please enter the figure numbers which correspond to your rankings below.

1st (Most faithful)	_____	7th	_____
2nd	_____	8th	_____
3rd	_____	9th	_____
4th	_____	10th	_____
5th	_____	11th	_____
6th	_____	12th (least faithful)	_____

5. Please rate the figures on how *emotionally stable* you would expect them to be (*able to handle and express their emotions appropriately and effectively, unlikely to exhibit frequent emotional tirades*)? Please enter the figure numbers which correspond to your rankings below.

1st (Most emot. stable)	_____	7th	_____
2nd	_____	8th	_____
3rd	_____	9th	_____
4th	_____	10th	_____
5th	_____	11th	_____
6th	_____	12th (least emot. stable)	_____

Subject number____
Stimulus Set ____

6. Please rate the figures on how *kind* you would expect them to be (*kind, considerate, and understanding of others; thoughtful about other's needs*)? Please enter the figure numbers which correspond to your rankings below.

1st (Most kind)	_____	7th	_____
2nd	_____	8th	_____
3rd	_____	9th	_____
4th	_____	10th	_____
5th	_____	11th	_____
6th	_____	12th (least kind)	_____

7. Please rate the figures on how *successful* you think they would be (*successful at their job, having a personally rewarding career; making a large income*)? Please enter the figure numbers which correspond to your rankings below.

1st (Most successful)	_____	7th	_____
2nd	_____	8th	_____
3rd	_____	9th	_____
4th	_____	10th	_____
5th	_____	11th	_____
6th	_____	12th (least successful)	_____

8. Please rate the figures on how *interpersonally competitive* you would expect them to be (*concerned with status between people, likely to compete with or try to be or appear to be better than friends*)? Please enter the figure numbers which correspond to your rankings below.

1st (Most competitive)	_____	7th	_____
2nd	_____	8th	_____
3rd	_____	9th	_____
4th	_____	10th	_____
5th	_____	11th	_____
6th	_____	12th (least competitive)	_____

Subject number____
Stimulus Set ____

***PART 3*: ALL SUBJECTS**

DIRECTIONS: Please refer to the figure sheet and write the number of each figure in the weight column in which you think it belongs. The order that you write them down in does not matter.

UNDERWEIGHT	AVERAGE/ABOUT RIGHT	OVERWEIGHT
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

APPENDIX E

TABLES OF LOGLINEAR MODEL PARAMETER ESTIMATES

Table 5

Parameter estimates for: Which figure do you think is ideal for a female?

Model Generated: Gender * Figure, Race * Figure, Gender, Race, and Figure Effects

X^2 (12) = 16.85, p =.155

Effect	Parameter	Coefficient	Standard Error	Z-Value
Gender * Race * Figure				
1	Male Caucasian u7	.0474511550	.15151	.31320
2	Male Caucasian u8.	.1772584028	.19239	.92136
3	Male Caucasian u9	-.2151460218	.33505	-.64213
4	Male Caucasian n7	.0834819764	.19459	.42902
5	Male Caucasian n8	-.0546775639	.22961	-.23813
6	Male Afr. Amer. u7	-.0876562098	.17697	-.49532
7	Male Afr. Amer. u8	.1635549184	.23497	.69606
8	Male Afr. Amer. u9	-.3219642109	.46501	-.69237
9	Male Afr. Amer. n7	.0475449668	.19696	.24139
10	Male Afr. Amer. n8	.5560465096	.28125	1.97707
Gender * Race				
1	Male Caucasian	.0464016322	.10878	.42655
2	Male Afr. Amer.	-.2078475375	.13262	-1.56727
Gender * Figure				
1	Male u7	.2614201612	.11901	2.19655
2	Male u8	-.1622804191	.15059	-1.07760
3	Male u9	-.2060647668	.28130	-.73254
4	Male n7	-.0109994383	.14226	-.07732
5	Male n8	.1827729196	.18549	.98534

Table 5 (continued)

Parameter estimates for: Which figure do you think is ideal for a female?

Effect	Parameter	Coefficient	Standard Error	Z-Value
Race * Figure				
	1 Caucasian u7	.0361630456	.15151	.23869
	2 Caucasian u8	-.0355264065	.19239	-.18466
	3 Caucasian u9	.3783331435	.33505	1.12918
	4 Caucasian n7	-.4321854422	.19459	-2.22105
	5 Caucasian n8	.2178646856	.22961	.94884
	6 Afr. Amer. u7	.0499957433	.17697	.28251
	7 Afr. Amer. u8	-.3174509763	.23497	-1.35101
	8 Afr. Amer. u9	-.4213858040	.46501	-.90618
	9 Afr. Amer. n7	.5430411213	.19696	2.75708
	10 Afr. Amer. n8	-.2007842359	.28125	-.71391
Gender				
	1 Male	-.2370785594	.08639	-2.74438
Race				
	1 Caucasian	.3268905503	.10878	3.00497
	2 Afr. Amer.	-.1217610559	.13262	-.91814
Figure				
	1 u7	1.0942724937	.11901	9.19449
	2 u8	.3612429895	.15059	2.39878
	3 u9	-.9514288548	.28130	-3.38225
	4 n7	.4640086928	.14226	3.26173
	5 n8	-.2416542525	.18549	-1.30277

Table 12

Parameter estimates for: Which figure do you find most attractive?

Model generated: Race * Figure, Race, Figure, and Gender Effects

$X^2(17) = 23.96$, $p = .121$

Effect	Parameter	Coefficient	Standard Error	Z-Value
Gender * Race * Figure				
1	Male Caucasian u7	.0086247580	.17105	.05042
2	Male Caucasian u8	-.0265459322	.19967	-.13295
3	Male Caucasian u9	-.1829083410	.45227	-.40442
4	Male Caucasian n7	.1497839269	.22409	.66841
5	Male Caucasian n8	-.2778526950	.32590	-.85256
6	Male Afr. Amer. u7	.1272566910	.20731	.61385
7	Male Afr. Amer. u8	.1958395002	.24557	.79750
8	Male Afr. Amer. u9	.7233932406	.62268	1.16174
9	Male Afr. Amer. n7	.0370632339	.22972	.16134
10	Male Afr. Amer. n8	-.1468498196	.34327	-.42780
Gender * Race				
1	Male Caucasian	.0849438969	.14209	.59781
2	Male Afr. Amer.	-.2720515404	.17472	-1.55705
Gender * Figure				
1	Male u7	.0108037320	.13865	.07792
2	Male u8	-.2102658619	.16107	-1.30545
3	Male u9	-.3141706721	.38572	-.81449
4	Male n7	.0365751976	.16955	.21572
5	Male n8	.3300798262	.27411	1.20418

Table 12 (continued)

Parameter estimates for: Which figure do you find most attractive?

Effect	Parameter	Coefficient	Standard Error	Z-Value
Race * Figure				
1	Caucasian u7	-.0303871942	.17105	-.17765
2	Caucasian u8	.0182609970	.19967	.09145
3	Caucasian u9	.4517937137	.45227	.99894
4	Caucasian n7	-.5020707817	.22409	-2.24049
5	Caucasian n8	.0940302397	.32590	.28852
6	Afr. Amer. u7	-.2092662044	.20731	-1.00944
7	Afr. Amer. u8	-.3439795321	.24557	-1.40075
8	Afr. Amer. u9	-.7547056145	.62268	-1.21203
9	Afr. Amer. n7	.7113453252	.22972	3.09657
10	Afr. Amer. n8	.5101274780	.34327	1.48608
Gender				
1	Male	-.1371710281	.11749	-1.16750
Race				
1	Caucasian	.3785789229	.14209	2.66434
2	Afr. Amer.	-.0628401819	.17472	-.35966
Figure				
1	u7	1.5404974783	.13865	11.11037
2	u8	.8060463433	.16107	5.00438
3	u9	-1.4041010818	.38572	-3.64016
4	n7	.6009263313	.16955	3.54423
5	n8	-.4970314634	.27411	-1.81325

Table 17

Parameter estimates for: Which figure do you think other women would find most attractive?

Model generated: Gender, Race, and Figure Effects

$X^2(32) = 39.97$, $p = .157$

Effect	Parameter	Coefficient	Standard Error	Z-Value
Gender * Race * Figure				
1	Male Caucasian u7	.0168182302	.19177	.08770
2	Male Caucasian u8	.0617383831	.20828	.29642
3	Male Caucasian u9	-.2208619404	.24674	-.89513
4	Male Caucasian u10	-.0390309502	.55087	-.07085
5	Male Caucasian n7	.0073905833	.30243	.02444
6	Male Caucasian n8 or n9	-.0262041100	.33273	-.07875
7	Male Afr. Amer. u7	-.0139802895	.18678	-.07485
8	Male Afr. Amer. u8	.2164922195	.20346	1.06404
9	Male Afr. Amer. u9	.2605697823	.25241	1.03234
10	Male Afr. Amer. u10	.0866526128	.42002	.20631
11	Male Afr. Amer. n7	.0363884499	.29808	.12208
12	Male Afr. Amer. n8 or n9	-.1944138794	.35250	-.55152
Gender * Race				
1	Male Caucasian	.1241685542	.16296	.76194
2	Male Afr. Amer.	-.2569278208	.14564	-1.76413

Table 17 (continued)

Parameter estimates for: Which figure do you think other women would find most attractive?

Effect	Parameter	Coefficient	Standard Error	Z-Value
Gender * Figure				
1	Male u7	-.1699927786	.13669	-1.24361
2	Male u8	-.1727441156	.15215	-1.13535
3	Male u9	.1889682105	.17629	1.07189
4	Male u10	.5564433647	.36166	1.53859
5	Male n7	-.1649415273	.21749	-.75837
6	Male n8 or n9	-.0056896198	.25054	-.02271
Race * Figure				
1	Caucasian u7	.2372530695	.19177	1.23715
2	Caucasian u8	.3409131182	.20828	1.63680
3	Caucasian u9	.0586482015	.24674	.23770
4	Caucasian u10	-.5139756017	.55087	-.93303
5	Caucasian n7	.0301217854	.30243	.09960
6	Caucasian n8 or n9	.2339916867	.33273	.70325
7	Afr. Amer. u7	-.3487480323	.18678	-1.86719
8	Afr. Amer. u8	-.1542462271	.20346	-.75811
9	Afr. Amer. u9	-.4624348761	.25241	-1.83209
10	Afr. Amer. u10	.7294566974	.42002	1.73673
11	Afr. Amer. n7	-.0648447443	.29808	-.21754
12	Afr. Amer. n8 or n9	-.1745928309	.35250	-.49529

Table 17 (continued)

Parameter estimates for: Which figure do you think other women would find most attractive?

Effect		Parameter	Coefficient	Standard Error	Z-Value
Gender					
	1	Male	-.0922748243	.11239	-.82104
Race					
	1	Caucasian	.0626339015	.16296	.38434
	2	Afr. Amer.	.1732267030	.14564	1.18942
Figure					
	1	u7	1.6783676142	.13669	12.27837
	2	u8	1.1560611783	.15215	7.59816
	3	u9	.5119162321	.17629	2.90376
	4	u10	-1.0742040216	.36166	-2.97022
	5	n7	-.0960401898	.21749	-.44158
	6	n8 or n9	-.4255673052	.25054	-1.69861

Table 21

Parameter estimates for: Which figure do you think best approximates your current figure?

Model generated: Race and Figure Effects

$X^2(16) = 24.64$, $p = .077$

Effect	Parameter	Coefficient	Standard Error	Z-Value
Race * Figure				
1	Caucasian u7	-.4360735144	.38367	-1.13658
2	Caucasian u8	.1312967816	.29039	.45214
3	Caucasian u9 or u10	-.1120030071	.29101	-.38488
4	Caucasian n7	.2521324613	.23246	1.08463
5	Caucasian n8	.4396514910	.25637	1.71491
6	Caucasian n9 or n10	.2723374368	.28903	.94225
7	Caucasian o7	-.4694346673	.38254	-1.22715
8	Caucasian o8	.2629735252	.41023	.64104
9	Afr. Amer. u7	.4225579197	.31423	1.34474
10	Afr. Amer. u8	-.4439186856	.31509	-1.40885
11	Afr. Amer. u9 or u10	-.5620553314	.30915	-1.81806
12	Afr. Amer. n7	-.1653966713	.23955	-.69044
13	Afr. Amer. n8	-.3594915339	.28414	-1.26521
14	Afr. Amer. n9 or n10	-.2470495809	.30733	-.80385
15	Afr. Amer. o7	.4892802254	.30867	1.58514
16	Afr. Amer. o8	.1230761292	.40817	.30153

Table 21 (continued)

Parameter estimates for: Which figure do you think best approximates your current figure?

Effect		Parameter	Coefficient	Standard Error	Z-Value
Race					
	1	Caucasian	.1032305710	.12104	.85287
	2	Afr. Amer.	.2431279670	.11389	2.13480
Figure					
	1	u7	-.1789039703	.25733	-.69523
	2	u8	.1410289287	.21660	.65111
	3	u9 or u10	.2591655745	.20786	1.24684
	4	n7	.6834874664	.17724	3.85635
	5	n8	.3667567053	.20232	1.81273
	6	n9 or n10	.1112139086	.22212	.50070
	7	o7	-.1455428174	.25564	-.56932
	8	o8	-.6266365816	.32212	-1.94535

Table 25

Parameter estimates for: Which figure do you think best approximates your current figure?

Model generated: Race and Figure Effects

$X^2(14) = 22.78$, $p = .064$

Effect		Parameter	Coefficient	Standard Error	Z-Value
Race * Figure					
	1	Caucasian u7	-.4427931689	.37691	-1.17480
	2	Caucasian u8	.1245771271	.28536	.43656
	3	Caucasian u9 or u10	-.1187226616	.28596	-.41517
	4	Caucasian n7	.2454128068	.22852	1.07392
	5	Caucasian n8	.4329318365	.25198	1.71813
	6	Caucasian n9 or n10	.2656177823	.28402	.93520
	7	Caucasian o7 or o8	-.1594235606	.28801	-.55353
	8	Afr. Amer. u7	.4532719232	.30900	1.46692
	9	Afr. Amer. u8	-.4132046822	.30984	-1.33359
	10	Afr. Amer. u9 or u10	-.5313413279	.30402	-1.74774
	11	Afr. Amer. n7	-.1346826678	.23580	-.57118
	12	Afr. Amer. n8	-.3287775304	.27949	-1.17634
	13	Afr. Amer. n9 or n10	-.2163355774	.30223	-.71579
	14	Afr. Amer. o7 or o8	.3973583303	.25572	1.55391
Race					
	1	Caucasian	.1099502255	.11934	.92133
	2	Afr. Amer.	.2124139635	.11301	1.87955

Table 25 (continued)

Parameter estimates for: Which figure do you think best approximates your current figure?

Effect		Parameter	Coefficient	Standard Error	Z-Value
Figure					
	1	u7	-.3129097043	.25266	-1.23847
	2	u8	.0070231947	.21265	.03303
	3	u9 or u10	.1251598405	.20407	.61332
	4	n7	.5494817324	.17399	3.15806
	5	n8	.2327509712	.19863	1.17176
	6	n9 or n10	-.0227918254	.21807	-.10451
	7	o7 or o8	.1658607394	.20694	.80151

Table 29

Parameter estimates for: Which figure do you think that men would find most attractive?

Model generated: Race * Figure, Race, and Figure Effects (Saturated Model)

$X^2(0) = 0.0$, $p = 1.0$

Effect	Parameter	Coefficient	Standard Error	Z-Value
Race * Figure				
1	Caucasian u7	.3672773956	.17787	2.06486
2	Caucasian u8	.3944916026	.19089	2.06662
3	Afr. Amer. u7	-.2587940928	.16368	-1.58111
4	Afr. Amer. u8	-.5811876626	.18878	-3.07871
Race				
1	Caucasian	.0060106347	.15418	.03898
2	Afr. Amer.	.2195498478	.13163	1.66792
Figure				
1	u7	.5569849762	.12344	4.51234
2	u8	.0737533819	.13501	.54627

Table 33

Parameter estimates for: Which figure do you think that men would find most attractive?

Model generated: Race * Figure, Race, and Figure Effects (Saturated Model)

$X^2(0) = 0.0$, $p = 1.0$

Effect		Parameter	Coefficient	Standard Error	Z-Value
Race * Figure					
	1	Caucasian u7	.4432255469	.25567	1.73361
	2	Caucasian u8	.4704397538	.27380	1.71820
	3	Caucasian u9, u10	.1820949288	.43021	.42327
	4	Caucasian n7	-.6858208469	.38885	-1.76372
	5	Caucasian n8, n9, n10	.0566024050	.43862	.12905
	6	Afr. Amer. u7	-.4361211468	.22724	-1.91922
	7	Afr. Amer. u8	-.7585147166	.26330	-2.88076
	8	Afr. Amer. u9, u10	-.6211917262	.43995	-1.41196
	9	Afr. Amer. n7	.6626547014	.28482	2.32657
	10	Afr. Amer. n8, n9, n10	.4770911817	.37164	1.28375
Race					
	1	Caucasian	-.0699375166	.22279	-.31392
	2	Afr. Amer.	.3968769018	.18086	2.19442
Figure					
	1	u7	1.5016088612	.17882	8.39717
	2	u8	1.0183772669	.19484	5.22680
	3	u9, u10	-.5540302487	.30735	-1.80260
	4	n7	.3138855270	.24614	1.27525
	5	n8, n9, n10	-.4285377250	.31901	-1.34334

Table 37

Parameter estimates for: Which figure would you most like to look like?

Model generated: Race * Figure, Race, and Figure Effects (Saturated Model)

$X^2(0) = 0.0$, $p = 1.0$

Effect		Parameter	Coefficient	Standard Error	Z-Value
Race * Figure					
	1	Caucasian u7	.4763658229	.27335	1.74267
	2	Caucasian u8	.3443176758	.28499	1.20818
	3	Caucasian u9	.4747156546	.48043	.98811
	4	Caucasian n7	-.4451481450	.35904	-1.23982
	5	Caucasian n8	.6245893400	.41429	1.50762
	6	Caucasian n9	-1.0184866665	.87231	-1.16758
	7	Afr. Amer. u7	-.4683703190	.24200	-1.93542
	8	Afr. Amer. u8	-.5862086355	.25879	-2.26521
	9	Afr. Amer. u9	-.8377452675	.54837	-1.52771
	10	Afr. Amer. n7	.4984560103	.27458	1.81535
	11	Afr. Amer. n8	-.0076278063	.39684	-.01922
	12	Afr. Amer. n9	.7135748492	.56288	1.26773
Race					
	1	Caucasian	-.0801256222	.23549	-.34026
	2	Afr. Amer.	.3850374395	.18613	2.06867

Table 37 (continued)

Parameter estimates for: Which figure would you most like to look like?

Effect		Parameter	Coefficient	Standard Error	Z-Value
Figure					
	1	u7	1.5506132433	.18760	8.26554
	2	u8	1.3007267796	.19538	6.65733
	3	u9	-.6449611657	.36168	-1.78322
	4	n7	.7268877576	.23163	3.13818
	5	n8	-.1757956428	.32099	-.54767
	6	n9	-1.0976689937	.50275	-2.18332

Table 41

Parameter estimates for: Which figure would you most like to look like?

Model generated: Race * Figure, Race, and Figure Effects (Saturated Model)

$X^2(0) = 0.0$, $p = 1.0$

Effect	Parameter	Coefficient	Standard Error	Z-Value
Race * Figure				
1	Caucasian u7	.2263346495	.18445	1.22708
2	Caucasian u8	.0942865024	.19639	.48010
3	Caucasian n7	-.6951793185	.26824	-2.59161
4	Afr. Amer. u7	-.3274326314	.18968	-1.72621
5	Afr. Amer. u8	-.4452709479	.20461	-2.17620
6	Afr. Amer. n7	.6393936979	.21854	2.92573
Race				
1	Caucasian	.1699055512	.14330	1.18570
2	Afr. Amer.	.2440997518	.13869	1.76000
Figure				
1	u7	.7000052088	.14180	4.93657
2	u8	.4501187452	.14898	3.02142
3	n7	-.1237202768	.18173	-.68077

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The results suggest that Caucasian and Hispanic subjects prefer shapely underweight women, while African Americans, particularly women, find shapely underweight and shapely normal weight women to be physically appealing. African American women also rate shapely normal weight women favorably with respect to personality traits. This perceptual difference may help inoculate them from developing eating disturbances and account for the low prevalence rate of eating disorders in African Americans compared to women of other racial backgrounds. It is suggested that future research identify those beliefs, values or behaviors that seem to inoculate African American women from developing eating disorders. Once identified, mental health professionals may facilitate their development in those women who are likely to have eating problems.